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PRICE TWO SHILLINGS.

1895.

WHEAT GROWING

IN THE

ARGENTINE REPUBLIC.

BY

WILLIAM GOODWIN,

Fellow of the Royal Geographical Society.

Econ 7698.1

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FROM

Quarterly journal of economics

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William Goodwin, F R.G.S.

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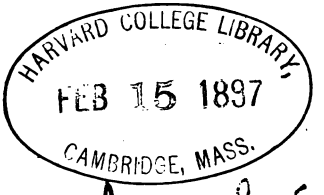

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GLOSSARY.

ALMACEN ..... General Store.

ALFALFA ..... Lucerne.

BARRANCA ..... Cliff or Bluff.

BARRACA ..... Merchants' Warehouse.

CHACRA ..... Grain farm.

CONCESION ..... Usually 62½ acres Land (25 Hectares).

ESTANCIA ..... Cattle or sheep farm.

ESTANCIERO ..... Cattle or sheep farmer.

GAUCHO ..... Native cattle-man.

GALPON ..... Grain Shed, usually constructed of corrugated iron.

MEDIANERO ..... Farmer working on shares.

MUELLE ..... Wharf.

MATE ..... Paraguayan Tea.

PARVA ..... Stack of Wheat or Alfalfa.

RANCHO ..... Farmer's house, usually a mud hut.

FOSCA ..... Hard clay.

PREFACE

DURING a recent visit to England the writer was asked many questions that evidenced very imperfect knowledge of the Wheat-growing industry as it exists in the Argentine Republic—especially with reference to the influence of the premium of gold—and the following short account was written, on the way out, with the idea of supplying to the Grain Trade some data not easily obtainable and it has since been somewhat enlarged, at the suggestion of several friends, because the subject is of considerable interest to many investors in Argentine securities and to those who are connected with Agriculture in other parts of the world, and want to know what sort of competition they have to meet.

The writer has tried to avoid the exaggeration, that is natural in dealing with a new country, and has endeavoured to describe the actual condition of the business without saying too much about the future possibilities, because the rate of devolopment of the resources of the Argentine Republic depends very much upon the extent of bad government that will be tolerated by the inhabitants.

WILLIAM GOODWIN.

BUENOS AYRES,
April, 1895.

Weights and Measures.

The Metrical System of Weights and Measures is legalised for use in the Argentine Republic, but some of the old Spanish or old Argentine denominations survive in everyday use. Notably in Land, the *vara* or yard, instead of the *metre*, the *cuadra* (old square) instead of the *hectare*, and the square league (6,672 acres.)

LINEAL MEASUREMENT.

Metre=39·37 inches Eng.
Kilometre=1,006 metres=·62 miles Eng.
Kilometrical league=5 kilometres=3·1 miles Eng.

OLD MEASUREMENT.

Vara=34·09 inches Eng.
Lineal league=3·2 miles Eng.

SUPERFICIAL MEASUREMENT.

Hectare=10,000 square metres=2·47 acres.
Kilometric square league=2,500 hectares=6,177·86 acres.

OLD MEASUREMENT.

Cuadra (old square, 158 varas x 150 varas)=4·17 acres.
Square league=6,672 acres (1,600 squares.)
Concession (of land), usually 62½ acres, occasionally 85 or 125 acres.

CUBIC MEASUREMENT.

Cubic metre=35·3 cubic feet Eng.

OLD MEASUREMENT.

Cubic vara=22.9 cubic feet Eng.

WEIGHTS.

100 kilos (called Quintal or Fanega)=220lbs. Eng.=3·67 bushels of 60lbs.
1,000 kilos (Argentine ton)=2,205lbs. Eng =4·6 quarters of 480lbs.

MEASURES OF CAPACITY.

Hectolitre=2¾ bushels.
Fanega of 220lbs. per square=·85 bushels of 60lbs. per acre.
Fanega of 220lbs. per hectare=1.47 bushels of 60lbs. per acre.

CHAPTER I.

General Description of the Country.

IT was considered until quite recent times that Wheat would not grow well in the Argentine Republic; or perhaps it would be more correct to say that no one thought much about agriculture in a wide-spread pastoral country that was continually disturbed by forays of Indians or of semi-civilised guerilla bands.

As fierce fights for political power were continuous, there was no inclination for settled agriculture, so that at a time when North America was offering great inducements to immigrants very few farmers were likely to venture on the uncertainties of a home in the old Spanish colonies of the Southern Hemisphere.

Flour was imported from Chili or the United States for use in Buenos Ayres; and the "Gauchos" who tended the rough native cattle and scraggy sheep lived on meat or Maize, while their masters had no ideas of commerce in anything but hides and wool.

Also the profits of sheep farming were so good that it was easy for the few Irish or Basques who did arrive to make money as shepherds having an interest in the flocks that often had free pasture on the unenclosed lands of the great Pampas. As the country near Buenos Ayres gradually settled down, Estancieros began to erect wire fences that interfered with cattle raiding and guerilla warfare, and when afterwards the Indians had been exterminated or driven far south by a relentless campaign of General Roca in 1878, large tracts of new and very rich land becme available for settlement, it then occurred to some astute possessors of these lands that by attracting settlers from Europe they could make their property more valuable.

A brilliant propaganda was started, and until the crash came some twelve years later there was a meteoric display of prosperity that was based on a discounted future, and that culminated at the time of the Paris Exhibition. Even in those halcyon days wealth was promised more from Wool than from Wheat, and it was not until 1890 that Wheat growing began to assume really large proportions.

PRESENT WHEAT LANDS.

That portion of the Argentine Republic at present devoted to Wheat culture includes the Provinces Santa Fé, Buenos Ayres, and Entre Rios, with the south portion of the province of Cordoba (the Province corresponding to the "State" in the United States), and the total area of this stretch of country is about equal to the combined areas of England and France. Only about one-third of the land within convenient distance of railways already constructed being as yet under cultivation, it is obvious that there is room for considerable development even under the present conditions of transportation.

The surface of this great section of country is level and free from stones, devoid of timber, with few streams, having a rich soil, a temperate climate (average summer temperature 74 degrees Farenheit and average winter temperature 57 degrees Farenheit), and usually a plentiful rainfall, also during the spring months constantly recurring night dews.

SOIL.

The general character of the soil is the same in all parts, varying somewhat in fertility according to the nearness to or remoteness from the great river Parana or the estuary known as the River Plate. The soil is composed of a loose vegetable layer of black loam of 6 to 36 inches in depth, and under this layer is usually found a deep subsoil of a clayey, sandy character, and lower still hard clay. This last named stratum holds the rainfall, enabling the ground to stand a long drought without seriously affecting the roots of the Wheat plant.

There seems no doubt that at some time this great plain was the bed of the Paraná River, and that the rich soil now covering the land was formed by the deposits carried down by the river from the tropical forests of Brazil and the luxuriant slopes of the Andes, being all of great

richness and easily worked. The best wheat land is found within a distance of 100 miles from the River Paraná or the seaboard, but there is practically no land within 200 miles distance that cannot be profitably cultivated Agriculture is improving with the experience gained by the Italian farmers, who are the Wheat growers, and who are in their own way not only hard working but intelligent, so that what might be called the "scratchy" farming of the first settlers will soon develop into a careful husbandry, and, when the farmers all acquire capital and become the owners of their farms, the work will be better done in all directions.

FARMING ADVANTAGES.

No other country can offer greater advantages to the farmer for the business of Wheat growing or general farming, and the cost at which Wheat can be grown depends largely on the degree of comfort in which the grower is content to live. There is an abundance of cheap land, and owing to the easy conditions of living, labour should always be cheap. There are no severe winters, and when the work of a farm is done by the family who own the land, or the farm is worked on shares with the owner, there is really no necessity for employing outside help until harvest time, and the facility for sowing Wheat has, indeed, usually tempted farmers to sow more than they can reap properly, with resulting losses of part of the crop when the weather is bad at harvest. It can be safely stated that an average of favourable seasons may be looked for, and that a serious failure of the crop, as in the year 1889, when, owing to damage by rain, the export surplus only amounted to 100,000 quarters, is unlikely to recur, because the Wheat growing area has extended to such an extent that it measures some 750 miles from North to South, and 150 miles East and West, with somewhat different climates, and including districts as far apart as London and Madrid or Minnesota and Louisiana.

WHEAT AREA.

FARMERS PRINCIPALLY ITALIANS.

The earliest settlers were Swiss, and colonists of that nationality are to-day among the best farmers in the country, living well in every way and proving themselves successful agriculturalists. The small farmers throughout the country are almost always Italians who originally

came from Piedmont or the plains of Lombardy, very few having either previous knowledge of agriculture or any capital to start with, but they are keen for money, and work hard in their own way, having quite enough sense to learn from experience by slow degrees the best way to grow Wheat, although they are desperately mean in any expenditure, and have a strong inclination always to increase their acreage and trust to a favourable season.

There are some excellent Russian colonists in Entre Rios and in parts of the province of Buenos Ayres, and there are also Basques in various parts of Buenos Ayres, but in such small proportions are other nationalities that everywhere the Italian element is dominant.

Wheat growing being really in Italian hands any one who wishes to study the future of the industry must take into account what can be done by this hard-working, temperate and frugal people, who care nothing for comfort if they can make money, but who do not work on English or North American lines, and cannot be judged from English standards.

CHAPTER II.

Districts.

PROVINCE of SANTA FE.

The Wheat growing area of the Argentine Republic may be divided into districts, having somewhat different climates and local peculiarities, but the most important is the Province of Santa Fé, the typical grain district, which was the earliest home of wheat growing, and continues to be by far the greatest exporter, with every probability of remaining at the top of the list, and having made Rosario a kind of Chicago, where railways concentrate near the headway of deep water navigation. The town of Santa Fé, which is the capital of the Province, with its port of Colastiné, is ninety miles above Rosario, and draws from two railways, but it makes no pretence to being a commercial centre, the term "Santa Fé Wheat" referring properly to all Wheat from the province without reference to the town.

PROVINCE of CORDOBA.

With the province of Santa Fé may also be included that part of the provinee of Cordoba which juts down to the West at a distance of about a hundred miles from the River, and of which the South-Eastern section is similar to Santa Fé in every way.

The climate of the province of Santa Fé is healthy, and, although the rainfall is less than that of Buenos Ayres, it is ample for agricultural purposes. During the summer months there are many days sufficiently hot to make field work very trying to an Englishman, but sunstroke is practically unknown and there is nothing injurious to health in the dry heat. In winter the days are usually bright and sometimes quite warm, while often the nights are keenly cold with sufficient frost to whiten the ground, but ice is rarely seen and snow is unknown. Rain does not fall during any fixed season, and while there have been seasons of comparative drought—notably 1890, 1891,

and 1892—it may be said that the climate is very well suited for growing Wheat and Linseed, though liable to occasional untimely frosts and hot winds and somewhat dry for Maize in the Northern section

Local variations in the rainfall occur every year, and these with the frosts and fogs cause the quality of Wheat grown in the different districts of Santa Fé to vary considerably, so that while in one season the best Wheat may come from the North, in another season it may come from the South or West, or may be found in isolated localities.

PROVINCE of BUENOS AYRES.

The province of Buenos Ayres contains the best lands in the Republic, which are quickly being opened up for agriculture, and its Wheat growing area may be divided into three sections: North, West, and South, leaving the large central part of the province to sheep farmers for the present.

The North Section, say from the City of Buenos Ayres to the boundary of the Province of Santa Fe, is of great fertility, the soil having been considered too rich for wheat, and more suited for maize, but lately wheat has done well, and will probably be grown to a fair extent. This section is in many ways similar to Santa Fe, both in soil and climate, but the rainfall is greater, so that maize can be grown for export to advantage.

The Western Section begins with splendid land on which any cereal can be grown to perfection, but towards the Pampas the soil becomes sandy and more liable to droughts, such as that of 1893, when the wheat as well as the maize was burned up. This section, however, grows so much Wheat that it may almost be considered as fixing the characteristics of the Wheat of the Province of Buenos Ayres, which differs in quality somewhat from Wheat of the Province of Santa Fe.

Until recently it was considered that Alfalfa (Lucerne) was a more profitable crop than Wheat, and a large proportion of Wheat cultivation in the West of the Province of Buenos Ayres and throughout Santa Fe was intended to prepare the land for Alfalfa, but now that it has been demonstrated that Alfalfa does better in the light surfaced lands of the Southern part of Cordoba and the Western part of Buenos

Ayres, Wheat and Maize will probably be grown more continuously on lands nearer to the seaboard.

The Southern Section of the Province includes the early settlements near the Curumalan Hills, and also the neighbourhood of Tandil and Azul that were settled in early days by Russian and Danish colonists. Lately the Atlantic Coast (on the Tres Arroyos Branch of the Southern Railway) has come to the front, producing Wheat of fine quality.

Throughout this Section the soil is somewhat different from that of other parts of the Republic, having more or less limestone formation near the surface, which, while it results in a better quality of the Wheat, render the crop more liable to injury from drought and frost.

PROVINCE of ENTRE RIOS.

The Province of Entre Rios lies in the angle made by the Rivers Parana and Uruguay when they join to make the Estuary of the "River Plate," and it is a pleasant country of rolling plains, having many small rivers and occasional woods, and when the large estates are broken up there will be more wheat grown on the rich soil, but at present the Province is very much out of the way.

REPUBLIC of URUGUAY.

The Republic of Uruguay has quite recently come to the front as a wheat exporting country, chiefly on account of a bountiful harvest resulting from a remarkably favourable season in 1893; and the success of a second good harvest just gathered may induce the habitually lazy Canary Islanders, who form the bulk of the settlers, to work up the small area of agricultural land in a country that is more or less stony and better suited for producing wool than meat. Very few of the Estancias are really opened up for agriculture, and the Republic is generally far behind its greater neighbour in development and in natural wealth.

Uruguay has always maintained a gold currency, and it is a curious contradiction of the idea that wheat growing in the sister Republic depends entirely upon the gold premium, to find Uruguay able to grow some 750,000 quarters of Wheat for export at a profit when prices are at their lowest point.

CHAPTER III.

Wheat Farming in Santa Fé.

PLOUGHING and SOWING.

Wheat is usually sown as the furrows are freshly turned by the plough, and the work can be done in Santa Fé or Entre-Rios at any time from the beginning of May until the middle of July, or from May till the middle of August in the Province of Buenos Ayres, but on old land it is well to leave the work as late as possible on account of the weeds.

When new land is broken up it is convenient and advisable to take a first crop of Maize, but with cross ploughing Wheat can be sown on new land the first year, although usually with poor result if the sods are not left long enough to decay. Deep ploughing is really quite unnecessary and, indeed, a mistake for a few years on new land, so it happens that very few ploughs in the country turn a furrow more than four inches deep, although after a few years working it is well to plough deeper. Land can be broken up at any time of the year unless a long drought has made the naturally friable soil too hard to work. A wet season leaves clods that are not broken by the primitive harrows, and one of the greatest strides in agriculture will be effected when all the Italian farmers add to their simple outfit some description of rollers with which to break the clods and afterwards to roll the young Wheat. Cross ploughing is now becoming more general, and quite recently a type of broad-cast Wheat sower is being used, but a large proportion of the seed is still hand-sown broad-cast after one ploughing only, and is simply covered in with a harrow of the feeblest and lightest description.

WEEDS.

It will easily be understood that under these conditions the land very soon gets foul, but there are very few noxious weeds, with the exception of a tall plant similar to fennel or hemlock that possesses the disagreeable peculiarity of being green at the harvest time, and therefore harmful to the condition

River Parana, showing Islands and Swamps at Villa Constitucion—Deep Water to right of picture.

of the stacks of header-cut Wheat. When new land is broken up there are very few weeds, but it is very curious that very different descriptions of weeds flourish best on any land according to the time of the year when ploughing is done in any season. Wild oats and Barley are very troublesome after the first few crops, but could be got rid of with a little attention at a time of year when no other work is being done on Wheat farms. If weeds are not noxious they are very vigorous in a wet season, and if the Wheat plant does not get a good start and cover the ground, the weeds grow very thick and naturally stunt its development.

PLOUGHING.

Ploughing is done in a very slovenly manner, and a British ploughman would be scornful if he watched an Italian "chacrero" following his bullocks at his plough turns a furrow of most crooked direction and leaves many grasses uncovered; but the Italian is not all wrong in shallow ploughing, and it may happen that in a wet season he may get a good crop of Wheat from land lightly worked, while his neighbour who had worked his land well finds the plant grows very much to straw and gives a poor yield.

Properly worked land will, on an average of years, undoubtedly give better and more certain results, but it is very much of a lottery chance whether to plough somewhat deep or very shallow, or to sow early or late, because the future progress of the Wheat plant is affected by the wet or dry season that follows. Wheat does best on new land in some years and on old land in others, and it is somewhat to be regretted that in one way or another there is always a chance for poor farming as well as for good agriculture.

When there is work to be done the Italian will not spare himself or his family, but will plough by moonlight or by starlight, resting during the hot mid-day hours, and will not cease from his hard and continued labour during favourable weather. Children are all made to work when very young, and a mite of seven years or less can ride a horse and perhaps drive a harrow or even a double plough with steady bullocks, so it will be easily understood that the farmer who "has his quiver full" comes off best. Large families are the rule, and it is not uncommon to hear of 12, 16, and even 18 children in a family, and the writer well

remembers in one of his earliest journeys having seen a long procession of ploughs and harrows driven by a family party, the grandmother being in front of the procession of the harrows and a little girl in the rear.

By working fifteen or sixteen hours one man can plough two or two and a half acres per diem with a single plough or four to five acres on broken land with a double plough, and if provided with sufficient bullocks, and urged to do so by good condition of the land and suitable weather, will keep up this work for a considerable time.

When his Wheat and Linseed are sown, the Santa Fé colonist has very little work to do till harvest time, because he does not grow more Maize than is wanted for his bullocks, and does not undertake any mixed farming unless he owns his farm, being often too careless even to grow fresh vegetables, so for nearly half of the year he relapses into idleness as relaxation from the time of high pressure, spending most of his time playing the guitar and taking "mate" in his "rancho," or if his credit is good, running up a bill at the neighbouring "almacen" for mild "refrescos," or for small drinks of villainous cheap spirits taken more for conviviality than from any taste for drinking, because as a class Italian colonists are very temperate in their habits.

MIXED FARMING.

The combination of hard work and idleness when growing wheat as the sole crop suits an Italian, but in calculating the cost of Wheat growing in the Argentine Republic it should not be forgotten that over a large area of the country mixed farming is perfectly practicable, and there is no time of the year when a farmer may not be ploughing, sowing, harvesting, or thrashing either Wheat, Linseed, or Maize, and almost every day of the year can be usefully employed on the farm. Moreover, an Argentine farmer is so favoured by seasons that he can plough three times as much land in a year as his United States competitor.

Another great item of farm economy is that horses and bullocks can pasture all the year, and do not require to be housed during the winter. A slight shelter to keep off the rain is all the protection that is ever afforded to animals, and even that protection is rarely provided.

SEASONS. A very wet season is the worst harm that can come to an Argentine Wheat farmer, and although nature is kindly, and probably treats him as well as any other Wheat grower, his crops on roughly-farmed lands suffer very badly at times. A wet seed bed, followed by an open winter, will bring up a dense mass of weeds on badly-prepared land, and the Wheat seed that germinates will afterwards only produce single stalks, and grow very much to straw with very poor heads of light grain that are scarcely worth the heavy expense of harvesting and threshing, but fortunately, wet seasons are exceptional, and in calculating crop prospects it may be considered that the Winter and Spring cannot be too dry for Wheat.

RUST. There is always danger of "Rust," that is said to be caused during a period of moist, hot weather, by a sudden change to cold, when the arrested flow of sap breaks the plant cells; or else, may be caused by a drop of water lodging in the stalk and acting as a burning glass when the sun comes out suddenly, destroying the plant at a joint. Also hot winds may cause shrivelled grain.

LATE FROSTS and FOGS. Very serious damage is often done locally by late frosts or very heavy fogs when followed by hot sun, but the effect of frost and rust was much greater in the total crop in the olden times when the Colonies were nearly all in one small district than it is ever likely to be now with the present extended area.

SMUT. River Plate Wheat is often depreciated in value by "Smut," called carbon, and there does not seem to be any way of preventing this unexplained disease, which some people think is caused by a hot sun in early morning carbonising the grain when in the milk stage. Recently some farmers have "pickled" their seed with chemicals in a more or less thorough manner, and with what are considered to be satisfactory results, but it is quite evident that there is no certainty in this or any other remedy.

DETERIORATION OF SEEDS. All seeds grown continuously on the same ground in this country are apt to deteriorate very much, and the very simple expedient of obtaining fresh seeds from another district is very rarely utilized for the prevention of smut. Smut is much more common in quite new land than on

old land, and, strange to say, is never found on self-sown Wheat plants, and as it is quite absent in good seasons, and, in any case, as it only attacks isolated plants in a field, it would appear that the mischief is done by weather influences acting on the plant during some imperfect condition of its growth.

HAILSTORMS. Violent hailstorms, making a clean sweep of the whole crop of a farm, are of frequent occurrence, but they can be insured against in local companies, and after all are of local and proportionately small effect.

LOCUSTS. Wheat rarely suffers from locusts except in the far North, because the stalks are hard and dry before the second brood of these voracious pests (which really do the damage) have come to life, and locusts, even in their periodical visitations, cannot spread over the whole area.

ISOCA. In parts of Entre-Rios and elsewhere, on damp lands, a caterpillar called "Isoca" has, at times, done considerable local damage, but this and other wheat pests are of less importance than in most countries.

WET HARVEST. The greatest disaster that could happen to Wheat growers would be a wet harvest following a wet summer, and its effects would be serious and result in a very reduced export.

OLD LANDS. There is no doubt that in some of the older colonies where Wheat has been grown for ten or even twenty years in succession without any manuring, fallowing, or even deep ploughing, the land becomes "tired" and very foul, producing poor crops in ordinary seasons, but if it were not easier for a colonist to move on to new land he could easily restore fertility by taking one or two crops of Maize.

FALLOWING. Simple fallowing is rarely practised on account of the trouble with weeds, and it must be borne in mind that the cheapness and abundance of good land leads to very wasteful and careless farming.

WEATHER INFLUENCES PARAMOUNT.

Generally speaking there is no doubt that in estimating crop results in the Argentine Republic, the weather of the particular season is much more to be considered than any differences of soil or of agriculture; at any rate this will be the case until a much longer period of experience has been passed. Improved systems of ploughing and sowing will do very much to guard against total failure of crops, and it is likely that the scarcity of labour at harvest will be every year lessened by an increased influx of Italian labourers from Brazil after the coffee crop has been gathered, and of natives from the Grand Chaco and the Upper Provinces, who are beginning to come South when the Sugar crop is finished in Tucuman; but nothing will avail to make a crop if the seasons really go wrong.

REAPING.

Harvesting time brings out the weak points of the country, and there is a tremendous struggle to get in the crop with the scanty supply of labour available. Reaping machinery and horses are sufficient, and in a blazing sun every man, woman, boy, and girl work with feverish haste from sunrise at 4 a.m. to sunset at 7 p.m. to save all they can of the crop before the grain is shed.

Unfortunately for the after condition of the grain it is most usual in Santa Fe to cut Wheat with headers, and make anywhere on the fields what are called "parvas," and what literally are simply piles of the short straws, and in 1893 even those farmers who had bought binders took off the tying gear and used them as headers to save the expense of twine, and to hurry up the work of a very big crop.

They did not even take the simple and usual precaution of making a wall and thatch of sheaves or of properly treading down the heads as they came in from light framework carts from the reaping machine and as the straw was very dry and light, the result was that heavy rains, coming soon after harvest, did immense damage by flattening down and thoroughly drenching the parvas, and if the season had not been exceptionally dry previously and the Wheat free from weeds, the damage would have been far greater.

Green weeds cut and stacked with header-cut Wheat are very often responsible for the heating of the stacks that in many years has occurred, with the result that much of the grain is either stack-burnt, mildewed, or budded; and as grains injured in that way cannot be separated afterwards, they are much more injurious to the sample than fully sprouted grains, which being light can be taken out before milling.

In ordinary seasons if some care is taken in making the parvas, the rain that does come, if not too heavy at the outset, makes a mat-work of sprouted grain on the top that becomes a sort of thatch, and can be cut off with the equally damaged bottom part of the parva when the threshing is done.

The harvest just gathered (Christmas, 1894) has been secured in exceptional weather, and as the Wheat was free from green weeds and labour unusually plentiful, farmers had every chance, and having the lesson of the previous year fresh in their minds, made much better stacks.

THRESHING. Threshing is always hurried up as soon as a machine and sufficient men can be got, and as a rule this work is done by contract. Sometimes farmers combine and buy machines, or the large landowners run them for their districts, but most of the work is done by contractors owning travelling machines who charge what they can get, the price varying according to the scarcity of labour and the condition of the stacks. When the Straw is light and the Wheat heavy the work can be done quickly, but if the Straw is tough or damp or the heads light, naturally the work is slow. The machines used are of the best English construction, and can do the best of work, but it is easy to understand that the wish of the contractor to slur over the cleaning is often seconded by the natural desire of the farmer for as much quantity as he can persuade himself is compatible with marketable quality.

Wheat when threshed goes straight into the bags that are used for shipment, and bad cleaning may easily be passed over unregarded, because it is natural for the Threshing Contractor to close up the screen of the machine and avoid separation of impurities or to thresh damaged

sheaves, as he is paid for all that goes into the bags, and knows that the farmer has a sneaking desire for the largest possible bulk.

Also in years when there is much smut it is a debateable question whether to clean hard and perhaps break the smut balls with consequent "black ends" to the Wheat, or to send Wheat to market imperfectly cleaned.

COUNTRY LIFE.

The life of a Santa Fé Wheat farmer, if somewhat monotonous, is healthy, and the Colonist has very little temptation to spend money, and need not suffer from any sense of comparative poverty, for it is the universal custom to live very simply and avoid any show of prosperity. He has, however, really no desire beyond making money, and no taste for spending it on good houses, or any sort of luxury, till the day comes for moving to Buenos Ayres or Italy. Country life is poor, mean, aud joyless, and the people who have come from the land of song and art seem to have no ideas of redeeming the depressing surroundings of their bare, ugly, comfortless homes, or of forming communities for social advantages of any sort, their only amusements being playing the guitar and gossiping at the nearest almacen. To Englishmen or Americans the life can have little to offer as compensation for the drawbacks of living in a community speaking a foreign language, and having very alien ways and very queer notions of morality and education; and there is no doubt that with very few exceptions Italians are the only successful Wheat farmers, but also there is no reason to think that Italians will cease to grow Wheat profitably at the lowest prices realized, and even if there is no profit there will be certainly a living wage to be got out of the work even at still lower prices.

NO LOCAL MARKET.

At very few of the 200 to 300 railway stations where Wheat is shipped are found more than the most necessary buildings, such as one or two general stores, bakeries and smithies, and, very much to the disappointment of the buyers of station lots, there seems no disposition to build country towns or create any local industries, except for the making of simple agricultural implements, and there are no local centres or markets.

The dreary uniformity of buildings everywhere, and the want of any local colour of life extends to the few camp towns that grow a little bigger, and even to Rosario, which is a city of some 70,000 inhabitants, with only one theatre and not even a presentable park.

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Santa Fe Wheat Lands before Pl

CHAPTER IV.

Land Tenure and Government.

LAND AVAILABLE.

Until some twenty years ago very little land was available for small farmers in any part of the Argentine Republic, chiefly because the large landowners, being proud of the extent of their acres and the size of their flocks and herds, and having all the money they wanted and no further ambitions, did not care to sell, and it was not until the Central Argentine Railway Company offered the lands that they had received as a bonus for making the Railway that settlers were able to buy small lots on favourable terms, and were attracted to Santa Fé, where they began to learn that Wheat would grow well

COLONIES.

After many difficulties and some disheartening failures of crops, agriculture got a real start in the formation of what are called "Colonies," under special charters, and the issuing of Government decrees that were supposed to grant land on easy terms to settlers, although really the result was that land was acquired by speculators, who subdivided the leagues they bought into "Concessions" of 60 to 85 acres each, surrounded by public roads, with still smaller lots called "chacras," and having the usual town lots arranged in a convenient part of the Colony. The painfully rectangular plan once approved by the Provincial Authorities, a Colony was quickly formed, having certain immunities from taxation, and a right to demand 25 per cent. reduction of railway freights.

LAND TITLES.

There is now no difficulty whatever in acquiring small lots of land in any part of the Republic, and titles are always registered throughout the country in a very simple form, transfers being easily made that are perfectly valid.

The original selling price of the Central Argentine lands was £1 per acre, and good land can still be purchased in various parts of the Province of Santa Fé within 100 miles of a port at the price, or for 12/-

to 15/- per acre in Cordoba, and, although in the older settlements near Rosario the price has risen to from 35/- to £3 per acre on account of the proximity to the river and shorter railway haulage, it may be said in general terms that after various fluctuations during the boom the price of good land in small lots has at present almost a normal value of about £1 per acre. Estancia lands for cattle raising advanced in value during the boom to a considerable extent, like most things in the country, but are now back again to the prices of ten or fifteen years ago, although they are now paying better as investments owing to the improvement of stock.

NO GOVERNMENT LAND.

There is no Government land available for settlers except the far South, and under very doubtful conditions, because the homestead law that was passed some years ago is a dead letter, and all the land in the River Provinces has passed into private hands.

TAXES and GOVERNMENT.

The taxes paid by the colonist are comparatively trifling, and he is not really interferred with in his work by anyone, unless either the "Comisario" (soldier, policeman, and general factotum), or the neighbouring "Juez de Paz" (police magistrate), or the "Gefe Politico" (Government "Boss" of the District) uses his arbitrary power for personal ends.

INSECURITY of LIFE and PROPERTY.

Life and property are, however, very insecure in Santa Fé, and many dreadful stories are told of what individual colonists suffer at times, and there is no doubt whatever that many Italians are killed by "Gauchos Malos" for the dollars they carry in their belts, or may have kept in their houses after they have sold their Wheat. The treatment to which they are subjected occasionally would drive Englishmem or North Americans to war or revolt, but the Italian of the lower orders works on and is accustomed by tradition to some robbery and many kickings. He may not like it, but he likes making money too well to risk his time and his life in trying to improve the Government. He has a deep distrust of everyone, and it is the ingrained habit of suspicion and the grudging of any joint expenditure of time or cash

that hinders everywhere any united action for necessary public works of even the simplest nature. A road may be impassable for weeks for want of slight repairs that no one will do, or for want of a small bridge that no one will build, even if it would be worth while for an individual landowner to pay double the cost for his own requirements.

POSITION of FOREIGNERS.

The various foreigners who, as merchants, colonists, or workmen, do the work of the country (with the solitary exception of cattle raising), never combine, being, however, allowed to make money without let or hindrance. They are under no legal disadvantages in owning property or conducting business, or following their own religion or amusements so long as they do not interfere with the native Argentines' prescriptive right to "politics" and all Government positions, but if they do interfere the consequences are sometimes an exemplary punishment of their public spirit.

IMMIGRATION.

Until the year 1890, under a very liberal but badly managed system of immigration, Italians and Basques came out with free passages, and returned to their families in Europe every year in time for the harvests on their own lands. This immigration still continues to some extent, and a strong affection for their native land makes it the object of most Italians to save money and leave the country as soon as they have a small competency, but gradually, as the families become landowners, this passes away, and there are now many Italians who, having arrived poor men and become rich, conduct very large enterprises of all sorts with remarkable ability.

CONSTITUTION and LAWS.

The Argentine Republic has a constitution very similar to that of the United States, and the "Code Napoleon" has furnished a system of laws that is theoretically admirable, but as a Republic is a form of Government particularly suited for angels, and as there is a good deal of human nature in Argentines, the result has been that the country is governed by a series of irresponsible oligarchies. Argentines proper are a small proportion of the population, but they keep the Government in their own hands, just as the Turks do in

Europe and Asia Minor, allowing the subject races to till the soil and live thereby. Foreigners do not think of the privilege of voting that citizenship will give them is worth the risk of a military service under most degrading conditions, and they value the possible protection of their own consuls and ministers, although experience shows that the value of this protection is somewhat imaginary. The result most unfortunately is that the bulk of the hard working and intelligent portion of the population, including the better class of Argentines, have no voice in the Government of the country, and very rarely take any part whatever in municipal or local affairs.

The governing class of the country being quite apart from commerce and ignorant of its requirements, often acts as if it were quite indifferent to injuries that are caused to trade by hasty and ill considered legislation, and it seems to be natural for the Latin race to have a taste for sudden changes, and no patience for the working out of any scheme that requires time for its full development. Every new finance minister likes to bring out a brand new plan of providing the revenue, but any economy he may wish to introduce in the expenditure is apt to be upset by the necessities of an increasing number of Argentines who have to live upon Government money.

PROVINCIAL GOVERNMENTS.

The question of the authority of the Provincial Governments is a continual turmoil far worse than that of States rights in the United States, and the contest for the balance of power between Buenos Ayres and the other provinces has caused many revolutions. No one can say what will cause a revolution now, and after all many of the revolutions are much greater events in newspaper articles than anywhere else, being changes of party Government that do not disturb rural life much more than a Presidential election in the United States.

The revolution of 1890 was a serious matter in Buenos Ayres, and caused the deaths of 1,000 or 2,000 men, but politically has not left much real result, and it has almost been forgotten already, so short is memory in South America.

CHAPTER V.

Cost of Wheat Growing.

SMALL FARMS.

Wheat growing is done to the best advantage in all countries with small farms that can be worked almost entirely by the family of the farmer with some necessary assistance at harvest time; because no men will work for hire with the energy or self-denial that they will display when they are proprietors or have a well defined interest in the profits of the work.

Land being very plentiful and very easy to work in the Argentine Republic, a family usually take up from 250 to 400 acres, and cultivate as much as they can. The land is bought, sometimes for cash, or more usually to be paid for by instalments spread over four or seven years; or is rented by yearly tenancy; but under a very general and most convenient arrangement landowners are almost always willing to have their land worked by any decent colonist "on shares," receiving from 8 up to 50 per cent. of the product of every crop according to the facilities given to the tenant, and this system of working on shares is by far the most usual, and seems to be suited to the present state of the country.

WORKING LAND on SHARES.

If the tenant is a poor man the landowner may build the very simple mud house that shelters the family and also supply bullocks, ploughs, seed, and supplies until the first harvest, and the landlord then takes 50 per cent. of the crop, but if only the use of land is given 8 to 15 per cent. of the produce goes to the landowner as rent; his proportion is naturally larger on land that is in a specially favourable position. If the crop is a failure the tenant may skip, having lost a year, but the landowner has had his land broken up, and is content to put that advantage against his money loss. If the storekeeper of the district has given credit for supplies to be paid for in Wheat, he may be trusted to take care of himself after the manner of his kind, and the sellers of Reapers and Threshers find the instalments by which they are paid forthcoming with occasional delay.

LARGE PROFITS.

So large indeed were the profits of growing Wheat until the recent heavy fall in prices that one good year would pay for the land, or for two previous failures of crops; and the financial progress of an Italian was said to be 1st year Peon, 2nd Medianero, 3rd Proprietario, and 4th Capitalista.

WHEAT KING.

An example of such success is quoted of Senor Guazzone, who arrived with only health and wits, and in a very few years had 66,000 acres of owned or leased land under Wheat cultivation on shares by his countrymen, being probably the largest Wheat farmer in the world in 1893.

PROFITS of WHEAT GROWING.

If Wheat is grown as the only crop, so much of the result depends upon the effects of good or bad seasons that there is a difficulty in arriving at an average financial result, and, when success furthermore depends so much upon the energy and economy of the individual farmer and the number of his family, it is not possible to give one estimate that will meet all cases. On the other hand it would be bewildering to give a sufficient series of estimates to cover many cases, and what is now put forward must only be taken as giving a general idea of the result of Italian farming in Santa Fe.

The following figures represent the first outlay necessary for installing a family of decent Italians, supplied with all necessaries for cultivating a farm of 250 acres :—

FIRST OUTLAY OF COLONIST.

Calculating Gold at 343. Dollar, 14d. Value at par 4/-.

CAPITAL REQUIRED.

Rancho (mud hut) materials and labour for erection, including digging well, necessary household fittings and utensils.	$250	(paper)	£15	0	0
3 Single-furrow Ploughs	80	,,	4	13	0
2 Sets of Harrows	70	,,	4	2	0
Cart	250	,,	15	0	0
Header Reaping Machine	1100	,,	63	0	0
Harvesting Cart	120	,,	7	0	0
12 Bullocks	480	,,	28	0	0
6 Horses	180	,,	10	5	0
Cows, pigs, poultry, etc.	300	,,	17	0	0
	$2,830	(paper)	£164	0	0

COST of LIVING.

The family would provide themselves with vegetables from the farm, and other household expenses and necessary clothing would cost about £2 per month, and can be reduced according to the frugality and meanness of the family. If the family live on a simple diet of cooked beans or Indian corn flavoured with grease, and varied occasionally by a part of the carcase of any sick cow or bullock that has died in the neighbourhood, using for beverage the never-failing Maté (Paraguayan tea), the actual cost of living can be cut down to compare with that of an Indian coolie, until the harvest time calls for meat and cana (common rum) to sustain labour that is exhausting to the last degree. Some colonists live on a really liberal diet, and if in good credit with the storekeeper buy wine and vary their diet with the sundry groceries obtainable at a country store; but whatever mild extravagance is allowed in a country where the climate is so temperate that fires and heavy clothing are almost luxuries, and where food is ridiculously cheap, the actual cost of living must compare favourably with what is necessary in any other country.

PRICE of FARM LAND.

Good land, situated conveniently near to a Railway Station and within 100 miles of a port, may be valued at £1 (5 dols., gold) per acre, and the farm can be worked by the colonist, assisted by a young son and by one hired peon all the year round, and by two extra peons at harvest. About 175 acres can be sown with Wheat, and the remainder of the land used for pasturing the animals and growing a little Maize. Housework will be done by the wife, who also looks after some cows and poultry.

YIELD per ACRE.

Owing to the want of accurate information from the multitude of small farms, it is very difficult to say what the average yield per acre really is in any year, and, although it has been customary to consider that the average of Santa Fé is not over 10 to 11 bushels per acre (similar to United States average), probably 13 bushels is nearer the mark for the entire country and 15 for good farms; because, in recent years, farmers have often threshed out 25 bushels, and sometimes up to 35 and even 45 bushels, while anything under 10 bushels is exceptional now that farming has improved somewhat. The bumper crop of 1893 was good

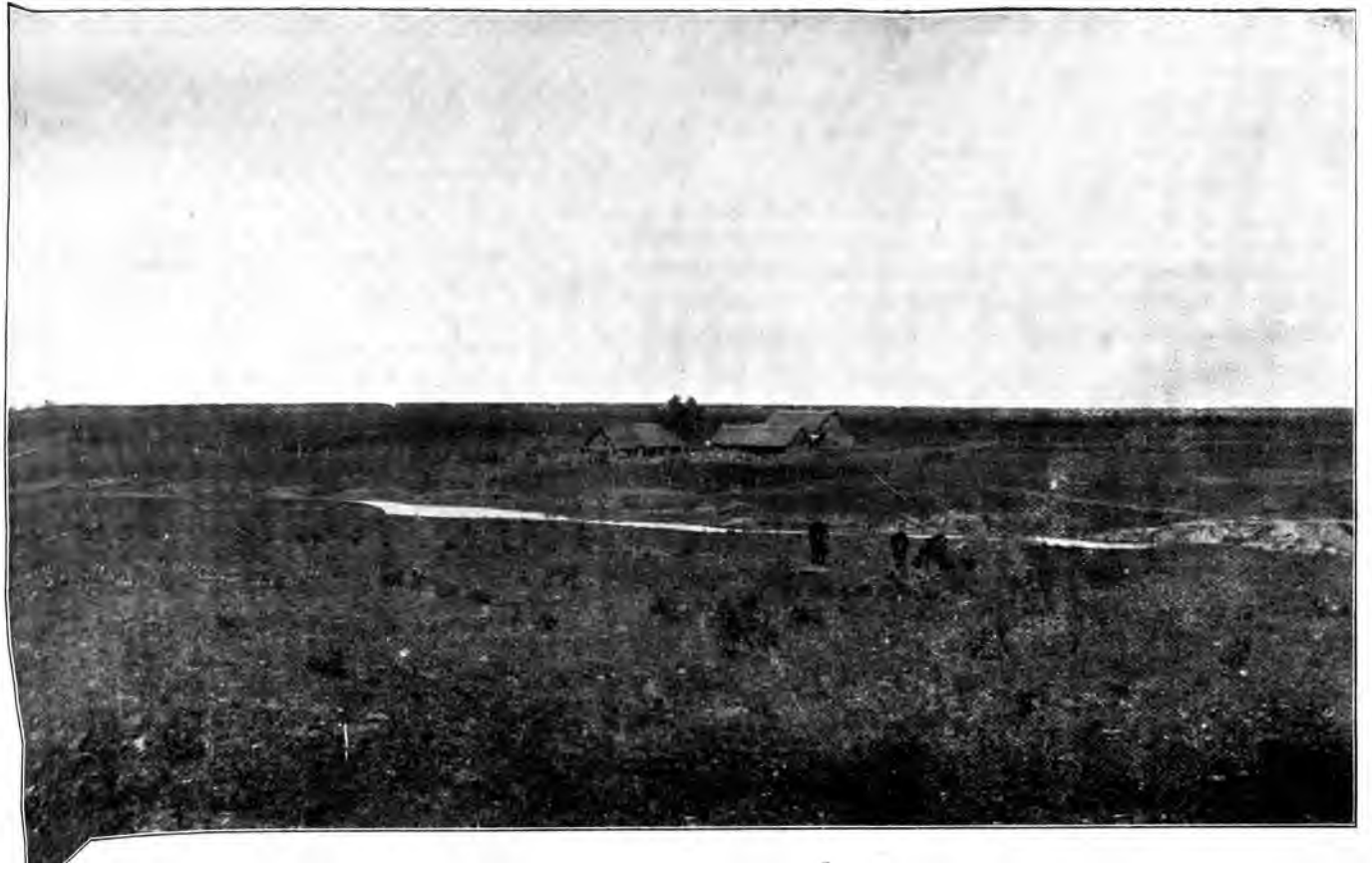
in every part of Santa Fé, and it was considered that the average yield (22 fanegas per square), but such a result is unusual and may not occur again for some years.

FARMER'S BALANCE-SHEET.

Wheat valued 20/- per quarter of 480lbs. Cost, Freight and Insurance. Calculating Gold at 343. Dollar 14d. (par value 4/-.)

RECEIPTS.—Wheat 175 acres at 15 Bushels, say 700 Fanegas of 220lbs. at 5.60 dols.		$3,920.00			
Maize, calves, poultry, &c.		500.00			
		$4,420.00	=£257	16	8
EXPENSES.—Living and Clothing 40 dollars per month	$480				
Seed, Wheat 40 Fanegas	252				
Maize	15				
WAGES.—1 Peon 12 months, at 20 dols	240				
2 Peons 15 days, at 3 dols. ...	90				
Hail Insurance	130				
Outlay to Harvest ...	$1,207				
Threshing, 1.10 dol. per Fanega ...	770				
Cost of Bags, 0·40 dol. „ ...	280				
Wheat Tax, 0.10 dol. „ ...	70				
Railway Freight to Rosario, 7 dol. per Fanega	490				
Cost of Wheat delivered in Rosario, say 4 dol. per Fanega, or 15d. per 60lbs.	$2,817				
Depreciation of Plant, Repairs, &c.	480				
Interest on cost of Land, 4,300 dols.	430	3,727.	=£217	8	2
Balance of profit		$693.	=£40	8	6

Wheat bought by a merchant at $5.60 per 220 lbs. in Rosario, calculating shipping charges, commission, etc., 10 per cent., with ocean freight at 20/- per ton can be sold at 20/- per 480 lbs., cost, freight and insurance to Europe·



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FARMER'S BALANCE SHEET FOR CROP OF 1893.

Twenty bushels per acre. Average price of gold 365. Dollar 13d. (par value 4/-),

RECEIPTS.—Wheat 175 acres at 20 Bushels, say 955 Fanegas of 220lbs, at $6 ...			$5,730.			
Maize, Calves, &c.			500.			
			6,230	= £337	9	2
EXPENSES.—Outlay to Harvest ...		$1,207				
Threshing 955 Fanegas at $1.10 ...		1,050				
Cost of Bags at	0.40 ...	382				
Wheat Tax at	0.10 ...	95				
Railway Freight ...	0.70 ...	668				
Cost of Wheat delivered in Rosario equal to $3.56 per 220lbs., say 14d. per 60lbs.		3,402				
Repairs & depreciation of Plant, &c.		480				
Interest on Cost of Land		430	4,312	= £233	15	8
Balance of Profit			$1,918	= £103	13	6

Which is 44 per cent. of cost of the land, and if the land was worked on shares, instead of being bought or rented, the net result is the same as regards the cost of production. It is most probable that, with the encouraging expectation of good years to balance bad seasons, the Italians will continue to work at a business that suits them, and the more so because they are not equipped for any other work, having no capital for stock raising or sheep farming.

In the foregoing estimate no real account is taken of what the colonist can do if he occupies the idle time of the year (fully six months) by growing other crops, even if only on sufficient scale for the fattening of pigs.

Beans, Oats, Barley and Potatoes can be raised, and, in fact, there are many byeways of lessening the cost of Wheat growing that are sure to develop, and that will make a very great difference in the business.

This year Linseed has been a most successful crop in Santa Fe, although Maize has failed. There is always some crop that does well.

In any case there can be very little difficulty in raising enough Wheat for food supplies that will keep a family who own the land or get credit for rent and supplies, and it is natural for farmers to hold on to their trade, even under discouraging conditions.

EFFECT of DEPRECIATED CURRENCY.

The newspaper custom in Europe of quoting the *premium* of gold instead of the *price* of gold gives an impression of a much greater percentage of variation in the currency than really exists, and it will be seen from the following table that the price of gold (*i.e.* the value of the paper dollar) has not fluctuated very materially in the last four years during the months when farmers have sold most of their Wheat, (although there were greater fluctuations during other months), the average price being about 340, and the greatest variation during any one year being 16 per cent. Deducting ocean freights, which are paid in gold, from the cost, freight and insurance price of Wheat, this really means only 10 per cent. difference on the cost of Wheat to consumers at home that was caused by gold fluctuations:—

PRICE OF GOLD.

	1891	1892	1893	1894
2nd January.....	318	375	293	328
1st March.....	340	351	317	356
1st May	356	332	307	382
1st July	355	316	336	362
Average.....	342	344	313	357
„ highest...	356	375	336	382
„ lowest ...	318	316	293	328
Variation	38	59	43	54
Equal	11%	16%	13%	14%

EFFECT of GOLD PREMIUM on PRODUCTION.

With the striking evidence before us that the Republic of Uruguay has just begun to export Wheat largely, although the currency is in gold, it is not easy to believe that any rise in the value of Argentine Bank Notes that is within the reach of possibility, will have much effect for a few years in any case on the production or the export price of Wheat, and the statement so often repeated in

agricultural newspapers in England that the Argentine farmer can grow Wheat cheaply, very much because with gold at 350 he really gets equal to 70/- per quarter in effective money, when the price in Europe is 20/- per quarter, is all wrong. There was some reason for such a statement immediately after the panic of 1890, but only a small part of the reason now remains.

The great factor of the cheap production is that the Argentine farmer is content with conditions of life that no English or United States farmer would accept, and that he is moreover favoured with plenty of good, cheap land and a good climate.

CHAPTER VI.

Qualities and Sorts of Wheat.

River Plate Wheat, if sound, contains a large amount of gluten, and has always qualities that are difficult to describe, but very valuable to all millers who study its peculiarities, and it is now acknowledged to be the best all-round Wheat sent to Europe. It is sometimes deceptive in appearance, and the samples are neither so good nor so bad as they appear. That is to say, an apparently choice sample is not so superior as it may seem to be from its plumpness and colour to an ordinary lot, because the ordinary lot will generally have strength and the indescribable quality that shews itself in the loaf, if not in yield of flour, and English millers who have experience find it difficult to account for a difference occasionally in flour-making value of 1/- or even, perhaps, 2/- per quarter in lots that appear to be very much alike.

NEW SORTS of WHEAT TRIED.

In the Province of Santa Fé many experiments have been made on a large scale by thoroughly competent farmers of all nationalities to introduce special sorts of Wheat, but they have resulted in a general demonstration of the fact that on account of the dominating influence of soil and climate it is very little use to try for anything but the hard red Wheat known in the country as Barletta, but called in Europe "Santa Fé," or "Rosario," or simply "River Plate Wheat," because whatever seed may have been originally used the produce after a few years is practically the same Wheat.

The general qualities of Santa Fé Wheat are well known in Europe, and if it is in some years sent to market mixed with Barley or Oats, and in wet seasons contains a proportion of damaged grains, arising from the various causes explained, it is not a very difficult matter for any miller who has modern washing and drying machinery to separate

most of the imperfections, and after removing any smut to obtain a very good milling Wheat.

CORDOBA WHEAT. Cordoba Wheat, being mostly shipped in Rosario, is sometimes called Rosario Wheat, but usually goes by the term of Santa Fé Wheat.

ENTER-RIOS WHEAT. Wheat from Entre-Rios is very similar in quality, but considered superior to Santa Fé Wheat. The Wheat grown by the Russian farmers near Diamante has a high reputation, but it usually happens that there is considerable irregularity in quality throughout the Province.

BUENOS AYRES BARLETTA. Barletta, of the Province of Buenos Ayres, is very similar in nature to Santa Fé Wheat, and oftentimes undistinguishable, but varies in colour and size and plumpness, sometimes assimilating to the original Barletta seed that came from Italy, but always containing a considerable amount of gluten.

TUSELA WHEAT. Tusela Wheat is a smaller, grey-backed Wheat, giving less strength but better colour, and it is in some years not easy to distinguish this Wheat from inferior Russian, Hungarian, or Lombardy descriptions.

FRENCH WHEAT. Frances (French) Wheat is grown considerably in Buenos Ayres because it gives a very large yield, but it is more delicate than Barletta, sheds easily, and is more liable to rust and smut. This description of Wheat gives more colour to Flour, but is short of gluten.

SALDOME WHEAT Saldome Wheat resembles United States White State Wheat.

CANDEAL WHEAT. Candeal Wheat is hard and ricy, being used for making maccaroni, and is all consumed in the country.

BAHIA BLANCA WHEAT. During 1894 about 50,000 tons of Wheat were shipped from Bahia Blanca, and the quality has been decidedly superior to other Wheat of the Province of Buenos Ayres, and is considered in some manner to assimilate to American Hard Red Wheat.

CHUBUT WHEAT.

The small proportion of Wheat grown in the Welsh Colony of Chubut, amounting to 4,000 up to 8,000 tons annually, is of distinct quality and very handsome, commanding a high price.

URUGUAY WHEAT.

Uruguayan Wheat varies very much with seasons, that of 1893 and 1894 being bright, plump, and attractive in appearance, but this Wheat is not so good as it looks, being deficient in strength.

IRREGULAR QUALITY.

The time of sowing in each farm being spread over two or three months, it follows that the Wheat plants will be in a different stage of growth when spells of bad weather come, and as only a portion of a farm may suffer injury it is no unusual occurrence for the quality of the threshings to vary very considerably during a day's work. Fine Grain may alternate with poor thin Wheat, or else wild Oats and Barley may have ripened with the Wheat instead of shedding earlier, and these grains are difficult to separate without special machinery.

VOLUNTEER CROPS.

It is said that as much as 30 per cent. of the ripe grain is often shed during the rough harvesting, so that next year "Guacho" (self-sown) Wheat comes up all over the fields, and this volunteer crop germinates naturally before properly-sown Wheat. In 1893 crops of as much as 18 bushels per acre were, in some parts, reaped from volunteer seed only on new land that was not harvested previously and left fallow, and it is a strange fact that smut is rarely found in self-sown Wheat.

A really favourable season may give exceptionally regular samples, but there is generally great irregularity in River Plate Wheat, not only throughout a district, but also on the same farm, and the differences are very much beyond the reach of accurate classification except on very general lines.

The drawback of irregularity of the quality of the Wheat as it is reaped in the fields is augmented by bad handling of the produce afterwards, and this is very much the cause why River Plate Wheat is often shipped to Europe in bad condition.

DAMAGE to BAGS on the FIELDS.

Bags of Wheat as they come from the threshing machine ought to be piled on a bed of straw and sheeted on the top, and if this is carefully done they take little injury beyond what is to be expected from the moisture absorbed by the bottom tier, and even if, as usually happens, the farmer has no sheets, the pile escapes material damage on ordinary seasons. Of course there must be a certain number of damaged bags in any case if heavy rains fall, but it also very usually happens that, being thrown down anywhere in the field in the hurry to make most of the labour when the threshing machine is on hand, they do not get piled or carried to the railway before they have absorbed sufficient moisture to become injured on one side, with damaged grains resulting.

DAMAGE at STATIONS

In wet seasons further very serious damage frequently results to the immense piles of bags that are waiting at railway stations for wagons or buyers; and although in continued bad weather much of this injury is unavoidable, because there are not enough sheets procurable to cover the piles, yet on the other hand much of the damage would be saved with a little attention if the Colonist would pay for a caretaker and have the piles properly made up and the sheets well secured. With a climate that is usually dry and a people who do not like to spend dollars that can possibly be saved, the temptation to count on a continuance of fine weather and take the chances is, however, very strong.

CHAPTER VII.

Country Dealing.

NO COUNTRY MARKETS.

There are no country markets for the exhibition of samples, nor is it at all possible for small farmers scattered over wide distances to meet and compare notes; so they have to wait until buyers come round from Rosario, or else must deal with the keeper of the General Store, where they buy their supplies, and they are furthermore at the disadvantage of having no proper standard samples even of their own district for guidance in fixing their prices. In many cases buyers of Wheat provide the bags, and they have, naturally, difficulty in forming a proper idea of the quality of Wheat in the stacks before it is threshed, but, even if Wheat is sold when actually in bags, it is impossible to estimate the quality of a large pile of bags without overhauling the lot, and for want of any accurate basis for fixing the contract quality, it has become customary for most of the Wheat crop of the country to be sold on the basis of "Fair average of the crop, sound, dry, and clean."

FAIR AVERAGE QUALITY.

It will be easily understood that with such terms of sale it is difficult to settle fairly the various questions that arise on delivery. Buyers and sellers have to fight out what the contract quality really is in the particular district of origin or port of shipment, and if the delivery is made on a contract dated some time back, the state of the market or the urgency of requirements for loading vessels, naturally affect the views of buyers in regard to the quality they will receive. There is a general understanding throughout the country as to the proper soundness and cleanliness of Wheat of the season, and much more general agreement as to quality than would be expected, because the receivers of various large firms are constantly travelling about and are

Colonists Cleaning Wheat

often known as reliable judges. In the country districts differences of opinion may be settled by haggling, and the sharpest man gets most advantage, but in all important contracts there is a reference to arbitration, and perhaps the right of appeal to the Chamber of Commerce of Rosario or Buenos Ayres.

SAMPLING WHEAT.

It will be obvious that very much depends on the accuracy of the samples that are drawn with a "trier" from every bag, and in the hurry of loading a steamer considerable expertness is necessary on the part of the men who do this important work, also it is always difficult with a trier to test the amount of Barley, Oats, or Straws that are mixed with the Wheat.

Shippers have to remember that "fair average quality of crop" in any locality may not be identical with "fair average of shipments at time of shipment," and they may have to set aside a fair portion of Wheat that owing to various reasons they receive up country, just as the country dealers receive inferior Wheat from the farmer at a price, hoping to pass it off to shippers. One way and another there is plenty of room for judgment and finesse, and yet it is difficult to make any great improvement as long as Wheat is sold and shipped in the original bags.

CARRIAGE in BULK.

In due course a change will come, and Wheat will be carried in bulk from the railway stations to the shipping ports, and if in bulk it can be properly examined. Station elevators to facilitate the work are of course advisable, but are not necessary for the starting of bulk carriage, and the railway wagons of the country, although generally small, can all be easily adapted to carry grain in bulk; so it is to be hoped that when some of the hoarded English money is let loose it will be profitably employed in building the very necessary storage and shipping elevators at the ports of shipment, and ship either in bags or bulk as may be desired. The change to bulk transit is inevitable, but like other developments in the Argentine Republic, the date of its advent is uncertain.

WANT of STORAGE ELEVATORS.

Some of the larger shippers continue to buy and receive up country, and occasionally have their own grain stores at some stations, but this is difficult and expensive work and every year an increasing amount of Wheat is bought through brokers for delivery at Rosario. The tendency is for trade to take its natural course and leave the dealers to collect the Wheat and to contract afterwards with shippers for shipping quality on such terms as they can arrange, and it is to be noted that the financial arrangements of the country are not easy and will always leave openings for the employment of capital and for business ability. Even in the United States, where trade works with scientific accuracy, a lot of money is wanted every Autumn for "moving the Crops," and in the Argentine Republic the work is complicated by uncertainties of legal title to property with a very doubtful working of law and very poor lower Courts of Justice, so that more money is wanted to carry on the business.

ADVANCES to SELLERS.

The question of advances of cash to dealers and farmers is very troublesome, and it is obvious that to buy to the best advantage a shipper must assist dealers to pay for Wheat up country, and share the loss of interest and the lock-up of capital caused by delays in transit. If a shipper has contracted for a cargo for delivery to suit a special ship, he can sit and wait quietly; but that may be called luxury, and with the uncertainty of dates of arrival of the various vessels to suit forward contracts, he can best provide himself by buying Wheat on several railways and from sundry dealers, trusting to fit in vessels and loading berths for arrived stuff when the time comes for loading.

CHAPTER VIII.

Transportation to Seaboard.

SHORT RAILWAY CARRIAGE.

In the small cost of transportation to shipping ports the Argentine farmer has a great advantage over his competitors in the United States, because of the short railway haulage to the magnificent waterway that penetrates some 300 miles inland. In ordinary seasons the country roads are good, and cartage a distance of, possibly, 30 miles to the railway station is easy, but if wet weather sets in the roads, being innocent of stone, become full of water holes, and cartage is heavy work. It is therefore advisable to cart in the Wheat to the railway stations as soon as possible, and the more so as there are no barns whatever in any part of the country, and farmers are naturally anxious to sell part at least of their crop at once, not only to avoid injury by wet weather, but also because they want money to pay for hired labour, threshing and bags, and very soon after harvest must clear up accounts at the general store, and pay instalments on machinery and land; so there is an early rush to get the Wheat to the railway stations.

MARKETING the CROP.

WANT of RAILWAY WAGONS.

Then begins the cry for railway wagons, that for six months at least makes the lot of a traffic manager not a happy one. The farmer has probably sold part of his Wheat delivered at the Station, and the local dealer has sold it again to merchants to be sampled, weighed and received for quality on the somewhat uncertain description—"Fair average of the crop, sound, dry and clean," and the work of selection that follows has to be done at the Stations, with poor accommodation, for it is quite impossible for railway companies to build warehouses for all the crop, and even if warehouses were built the Italians would grudge the payment of the most trifling sum for storage.

CONDITIONS of SALE.

When Wheat arrives at the railway stations the time of worry commences for all concerned, but the struggle to get hold of wagons and of men to load them is sweetened to the country dealer by the dodges he can work to pass off to the merchant's receiver bad Wheat out of the pile of bags he has gathered from many farms. There are about 250 stations at which a merchant may have to receive Wheat, and the men sent up for the work need to be very smart and very honest, and, naturally, as the supply of such men is not large, a great deal of badly received Wheat arrives in Rosario to the disappointment of the merchant who has ships waiting for cargo. It is therefore necessary to revise all grain in Rosario during shipment and set aside the bad bags, to the delay of work and the annoyance of railway people.

ROSARIO GRAIN SHEDS.

The five railways running into Rosario have about 30 loading berths, and in a busy season 60, and sometimes even 100, steamers and sailing vessels are waiting to load, and consequently there is great difficulty in getting berths where grain can be loaded. In February 1895 there were 145 steamers and sailing vessels in Rosario either chartered or seeking freights.

The railway termini are provided with some covered warehouses, but a considerable portion of the grain in bags has to be piled on open ground and protected with sheets. The entire available space on the river bank will scarcely hold 150,000 tons, and is very much taken up with small piles of " rejections," so that it is quite impossible to have a stock of Wheat ready for all the vessels, and a merchant has generally to work very skilfully in order to move his vessel about to the various loading berths where he can get some of the Wheat arriving from the country stations. When lay days run out and demurrage begins the appeals for wagons are desperate, and a traffic manager may be induced to run an extra special train to pick up the wagons at the various stations, but it is exceedingly difficult to decide who is to be favoured in this way when everyone is crying out.

There are two obvious policies open to a traffic manager. He may collect cargo ready for steamer due to arrive, or he may wait until

the steamer is actually in the berth before bringing the cargo down. These simple policies are affected by many side issues. Every small dealer in the country begs with impassioned action and urgent telegrams for wagons to bring down his Wheat so that he may turn it into cash, complains of unfairness to small men, and writes letters to the newspapers and Government complaining of the railway shortcomings. Merchants and dealers all ask for more wagons than they can load up country, and at one station there may be wagons waiting for men or receivers or Wheat, and at other stations Wheat, receivers, and men, waiting for wagons. From every point come howls of grumbling and wonderfully ingenious statements of bad treatment, but when the most flagarant mistatements of facts are proved to be wrong it does not say much about the false representations, because South American "dignidad de hombre" must be respected; although "truthful James" would have no chance with the average grain dealer "in ways that are vain, and tricks that are deep," when he wants wagons. People at home may think that rules can be arranged to simplify matters, but it is difficult to systematize work of this description, and the difficulties can only be dealt with as they arise, because every year there is a different set of traders in each district, who are mostly as clever and active as traders can be.

DIFFICULTIES of GRAIN HANDLING.

The difficulty of knowing which will be the best central point for buying when every year the conditions or quality differ in a locality deters merchants from building their own grain stores up country, and checks private enterprise in providing accomodation, and the trade as at present conducted is most imperfectly equipped for handling grain to advantage, but a change is sure to come soon, and in due course large dealers will supply themselves with proper granaries or elevators for receiving and classifying Wheat at all stations of importance; but meanwhile, however, the result in Rosario is bewildering to railway men who have their yards at times full of unclaimed wagons of Wheat belonging to dealers waiting a market, or shippers waiting for vessels, although at the same time other shippers are crying out for stuff. One railway company last year had for some weeks 1,100 loaded wagons

containing 20,000 tons of Wheat, some of which could not be unloaded for various reasons, and the rest could not be extricated from the blocked up sidings, and the fact is that the terminal facilities are very deficient, and Rosario is like the neck of a bottle.

The rolling stock of the two leading railways is ample for moving the crop at reasonable speed, but partly from want of space, and very much from an inconvenient arrangement of the yards, that has resulted from the awkward shape of the companies' lands, there is a great trouble in bringing the wagons to the ships.

In earlier days, when there were a few merchants, and when Wheat was all received up country and shipped as it came, there was little difficulty, although the result was the arrival of many bad cargoes in Europe. Now, however, greater care is taken in the shipment, and Wheat is revised at Rosario, to eliminate as far as possible the bad Wheat loaded intentionally or otherwise on wagons up country, and also the bags that get damaged sometimes on the way down in open unsheeted wagons. Also an increasing proportion of the crop is sold by up country dealers to be received for quality in Rosario and, as every day the number of dealers and shippers increases, the difficulties of handling a great volume of stuff increase fast.

RAILWAY RATES.

There is considerable competition among the Railways in Santa Fé, and the rates charged are not much higher than in the United States, but in any case railway freight is a very small proportion of the cost of the Wheat exported, because the average distance from station to seaboard is about 100 miles, as compared with at least 1,000 miles in the United States.

OCEAN FREIGHTS.

Ocean freights are naturally affected by the condition of the import trade, and it is fortunate for Wheat growers that there is no coal in the Argentine Republic, and that there will always be a large importation of coal for railway and manufacturing purposes. The average earnings of a steamer trading regularly from Rosario to Liverpool or Antwerp during 1893-4 were about 4/- per quarter, and even allowing for the higher rates during the busy season, probably the normal rate in the present depressed state of the freight market is very little higher.

BAGS.

Many complaints are made at home about the bad quality of the bags used for shipment of Wheat and with reason, because during the discharge of cargoes 15 to 25 per cent. of the grain is loose in the hold of vessels, thus in a great measure doing away with the safeguard of using bags to prevent heating on the voyage, without giving the advantage of the thorough mixing and freer passage of air that results if the cargo is loaded all in bulk. As long as the custom of selling "bags as Wheat" and weighing gross continues, there will be no improvement in quality of bags, and the farmer will buy the very cheapest and necessarily poorest bags that can be supposed to hold together as far as the railway station.

LIGHTERAGE.

LOSS of WEIGHT.

Unless the river is unusually high early in the season, probably 40 per cent. of the Wheat shipped is sent down river in lighters and loaded at Buenos Ayres or La Plata, and loss in weight and deficient outturn is a very natural result of transhipment, because canvas slings are very rarely used, and a rope sling cuts the poor, thin, bags. This, however, is not the only cause of leakage, and it is well-known that robberies in transit are frequent, and are easily effected when lighters are anchored for the night in any quiet channel of the Parana or even in the odd corners of the Boca del Riachuelo of Buenos Ayres. Bags can be bled without spoiling the count, and it is scarcely possible to re-weigh and to load at the speed required by the steamers.

The cure of this will come by the employment of large lighters carrying all their cargo stowed under the hatches, and by the payment of a sufficient freight to allow the owners of lighters to pay good wages to lightermen, but as long as small, poorly-found, and badly paid craft are employed, and have their decks lumbered with cargo, no improvement can be fairly expected, and the lightermen will continue to make up for poor pay in the best way they can. River police do not exist, and owing to the want of supervision the system of lighterage generally is such a scandal that heavy deficiencies in the outturns of cargoes in Europe are quite natural, unless the cargo is weighed directly into vessels.

CHAPTER IX.

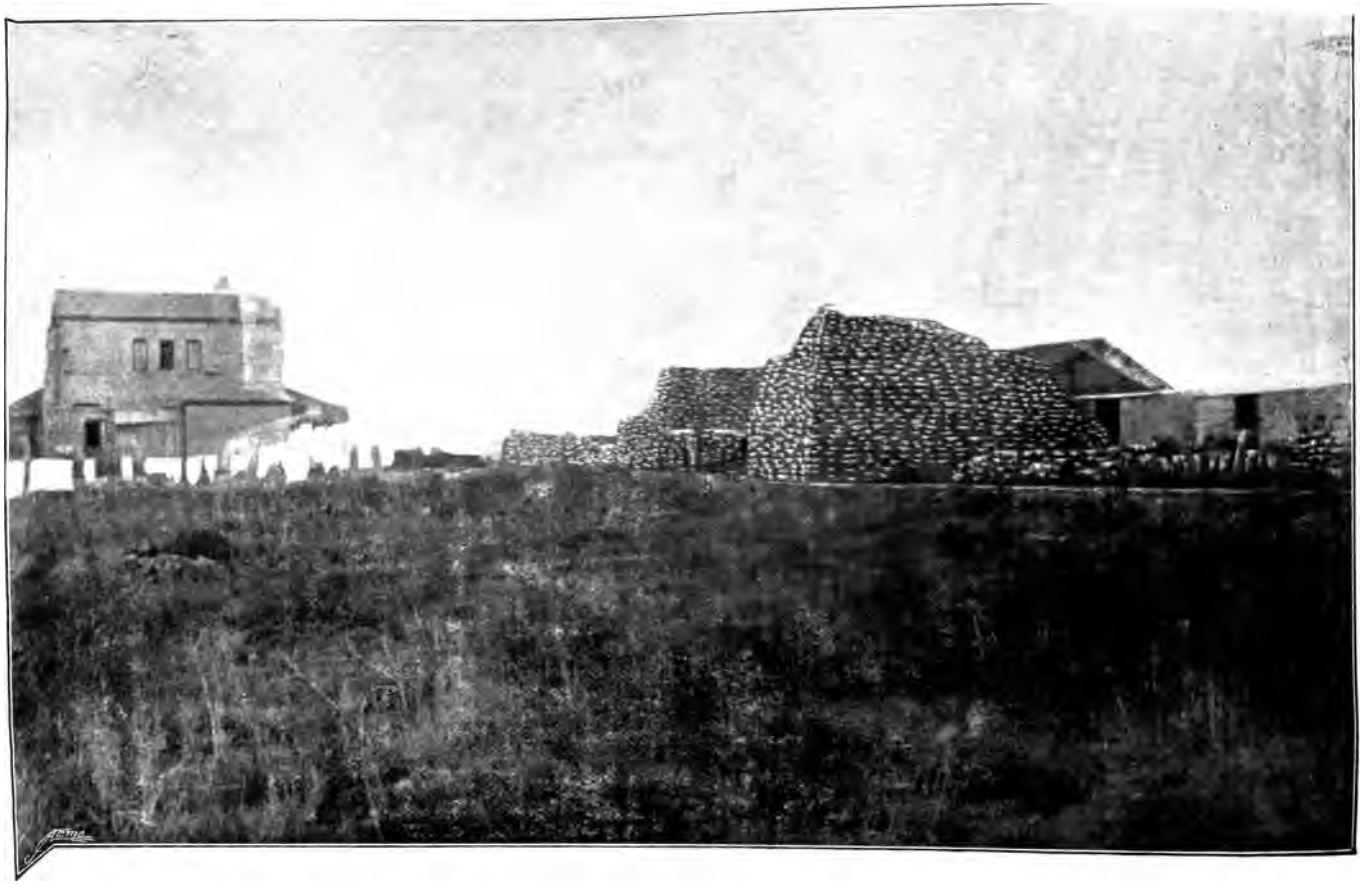
Shipping Ports.

RIVER PARANA.

A glance at the map will give some idea of the importance of the mighty River Parana, that brings down the melted snows of the Andes and the tropical rains of parts of Brazil, and is one of the greatest rivers of the world, and second only to the Amazon in the volume of its stream. When joined with the smaller Uruguay it has sufficient flow to fill the wide but shallow estuary of the River Plate with fresh water nearly as far as Monte Video, where it is 60 miles wide, and some day we may hear of works being undertaken for the control of its current similar to those which, when directed by the genius of Eads, gave to New Orleans a real deep water entrance. There can be little difficulty except political jealousy and want of energy in at least clearing away the bar above Buenos Ayres at Martin Garcia, and at the two passes below Rosario that always give trouble after July, and it is fortunate that in the wonderful way in which Nature helps this country, it happens that a high river comes always when it is most wanted; that is soon after harvest and during the busy half-year, enabling vessels to come down with a draft of 19 and occasionally even 21 feet without lightening, although they may have to wait a few days at Martin Garcia Bar if a continued north wind should have driven out the water in the shallow estuary, and lowered the level of the river perhaps six feet temporarily.

SANTA FE COLASTINE.

There are a number of deep-water ports and loading places under Custom House regulations at various parts of the river, commencing up river with Colastine, twelve miles distant from the town and small port of Santa Fé, which is the highest river port, being about 300 miles from Buenos Ayres, and accessible to any vessels that can go to Rosario. Wheat is



loaded from railway trucks, or from small river craft, but when the river is in high flood communication by the railway is cut off for a time by the submerging of the line.

PORT of PARANA, DIAMANTE.

Parana (Bajada Grande) is nearly opposite to Colastine, and with the adjacent port of Diamante affords deep water loading for the Wheat of the Province of Entre Rios.

Puerto Gomez, San Lorenzo, Puerto Borghi (Puerto Canalettas), San Lorenzo (San Martin), and Cerano, are loading places for Wheat above Rosario.

RIVER CHANGES.

Changes of current in the River Parana make and mar the loading places by moving banks and forming islands and channels in a very short time, otherwise it would be easy to load vessels at many more points of the great waterway. No proper study of the river changes has been made, and it will be dangerous to try experiments without great care with a river bed nearly 30 miles wide, or the result may be what happened in front of Rosario, where the sinking of a hay barge in 1886 has produced an island 4 miles long in front of the town, and by altering the current has practically caused the silting up of the Government wharves during part of every year. History goes back very few years in this country, but it seems as if Rosario has always had deep water in front of the high "Barrancas," where the river has in a wide sweep cut away gradually the hard tosca and left a sheer perpendicular cliff of about 50 to 60 feet in height, and extending for several miles. Even if the worst happens a little dredging will do much to restore the channel, and in case of urgency the Provincial and Federal Authorities may be induced to allow railway companies and others interested to do work that they have themselves no fancy for, unless there is some profitable "concession" to be arranged.

Experience of Buenos Ayres Harbour work has shewn how far any sort of Government dredging may be counted on, and the most disheartening feature of Argentine character is to look to the Government or Municipality to do everything, without ever facing the fact that

politics and their consequent excitements and profits are far more to the taste of Legislators than any sort of public works that want steady continued attention.

VILLA CONSTITUCION. About 30 miles below Rosario, at the terminus of the Great Southern Railway of Santa Fé and Cordoba, there is a good port called Villa Constitucion, with fine Barranca and deep water. The elevator built by the Railway Company was burnt in 1893, but there are sheds to hold 10,000 tons of grain. There is no local trade and only a poor town, although the export of grain increases very fast.

SAN NICOLAS. San Nicolas, the oldest city of the Province of Buenos Ayres, and a town of considerable importance about 40 miles below Rosario, has a good port with suitable wharves where a great deal of Maize is shipped in favourable seasons, and always some Wheat, but lately few ocean going vessels have loaded there.

PUERTO RAMALLO, PUERTO OBLIGADO, (Ramallo) BARADERO, SAN PEDRO, ZARATE. Wheat from the district between San Nicolas and Buenos Ayres comes down by river craft or railway to Buenos Ayres or La Plata, although Puerto Ramallao, Puerto Obligado, Baradero, San Pedro, and Zarate, are river ports, being used especially by small craft for Maize.

CAMPANA. There are fine wharves with deep water at Campana, and in a Maize season shipments from there may be expected to be large.

BUENOS AYRES PORTS. The port of Buenos Ayres may be divided into (1) the outer and inner roads (anchorages), where vessels may lighter inwards, but not receive cargo under present regulations; (2) the docks, (Nos. 1, 2, 3, and 4); (3) the Darsena (dock entrance), which, with the (4) Riachuelo (a long creek running inland), afford berths where grain can be loaded from lighters. The Boca Del Riachuelo (usually called the Boca) is the mouth of the long creek, embracing the most important part of the wharfage spaces outside of the docks. Railway lines are available for loading in some parts of the docks, but the work of

loading from railway wagons is slow, and most of the Wheat of the Province of Buenos Ayres comes in carts from the railway stations and stores to the vessels in the docks.

MERCADO CENTRAL de FRUTOS.

The Mercado Central De Frutos is an immense warehouse for grain and wool, but, being situated far up the Riachuelo, is practically inaccessible for deep water vessels, being chiefly used for local grain trade.

RIACHUELO ELEVATOR.

The Riachuelo grain elevator of the Great Southern Railway is available for shipment of grain arriving by the Great Southern Railway and by the Buenos Ayres Western Railways, and is the only granary where steamers can load direct in Buenos Ayres.

BUENOS AYRES DOCKS.

The accommodation for shipping grain in the port of Buenos Ayres is miserably deficient, and although really magnificent docks have been built they really are only used for import trade and to shelter vessels while they are receiving cargo from lighters, and are not provided with warehouses or any sort of deposits for export produce. The railway lines that are laid down in a part of the dock system can only receive wagons from a single line of rails at the north end, and one at the south end, and the six railway systems converging from all parts of the country have no proper access to the docks.

It is difficult to place even a small number of wagons alongside vessels when loading, and it is to be hoped that before long the Government will arrange for the erection of suitable deposits where cargo can be collected ready for shipment, for in that way only can any reasonable dispatch be given. When the outward cargo of a steamer consists, perhaps, of the contents of 400 wagons, it is quite impossible to marshall such a number of wagons alongside without interfering with the work of the adjoining berths in a crowded dock.

ENTRANCE to DOCKS.

The entrance channel to the docks, etc., is about 13 miles long, and is very badly dredged, so that after continued north winds, when the river falls, it becomes so shallow in places that vessels may have to wait several days before getting out to sea.

ENSENADA (La Plata).

The port of La Plata (called Ensenada) having a constant deep water entrance, is about 30 miles from Buenos Ayres by rail or water, but the mushroom city of La Plata is only the provincial capital, and has no commerce. All business is done at Buenos Ayres, and the port of Ensenada or La Plata is considered as part of Buenos Ayres port for some Customs regulations.

LA PLATA DOCK.

The Grand Dock at Ensenada, owned and worked by the Provincial Government, is a fine and very costly engineering work, supplied with railway lines and fairly large sheds, but the railway lines are very badly arranged for handling a large traffic, and in its present condition the dock is really not nearly equipped for work.

MUELLES DE LA PLATA.

RIO SANTIAGO.

At the entrance to the Grand Dock wharves and sheds have been erected by a private company, called the "Muelles de La Plata," and on other parts of the adjoining Rio Santiago, which runs inside the island of Santiago, there are mooring places and sundry wharves, but the entire accommodation for shipping grain that arrives by railway is quite inadequate for working to proper advantage.

MONTE VIDEO.

About 100 miles by water from Buenos Ayres the Republic of Uruguay has its only important harbour, Monte Video, which is really a roadstead protected on three sides.

Steamers and vessels are loaded from lighters, and the work is often stopped or delayed for days by southerly gales. Uruguayan Wheat from the up-river loading places is, however, frequently sent to Buenos Ayres or Ensenada by lighters.

VESSELS STRANDING in the RIVER.

With small exceptions a soft mud bottom is found throughout the River Parana and the River Plate, and vessels very rarely take any harm from grounding or stranding. Bad weather is experienced at the entrance to the River Plate during the winter months of July, August and September, but the homeward voyage is usually fair sailing up to the Bay of Biscay.

IA NCA. At about 500 miles south of Buenos Ayres the fine port of Bahia Blanca has been well equipped by the Great Southern Railway, and will be the exit for all the produce of the province that does not come to Buenos es, for it is practically the only Atlantic port of the Argentine ublic.

PUT. The Welsh Colony of Chuput is of small importance, and the Wheat grown there is sent to Buenos Ayres by coasting craft.

CHAPTER X.

Crop Estimates.

If crop estimates are often wrong in England where the acreage of each field is known and recorded, and if gigantic mistakes are made in calculating the United States Wheat crop, notwithstanding liberal spending of Government money by an intelligent people who have a fondness for figures, what can be expected in a thinly settled and widely spread country having mostly Italian farmers, who are badly informed and secretive?

ACREAGE.

The real basis for calculating acreage can scarcely be said to exist, because the few Government officials who collect figures have a taste for exaggeration, and have neither the experience or the aptitude for analysis of such returns as they obtain. Also farmers are often wildly out of range in estimating the yield of their crops, even after harvest, and in the exceptional year of 1893 it was no uncommon case to hear of farmers wanting twice as many bags as they had ordered, whereas in 1894 they were deceived by the good appearance of Wheat right up to harvest. Bag manufacturers, dealers in agricultural machinery, and country buyers have the best chance of forming a general idea of the total crop; railway officials know what is said of the prospects of their districts; managers of large land companies can judge what the colonists' ideas point to, and wholesale traders know what the retail traders say; but it is only by collecting and comparing these opinions that any estimate worth having can be formed, and this estimate must be corrected as soon as the threshing machines discover the actual yield of the various districts in order to arrive at any proper comparison with the crops of the previous year.

YIELD per ACRE.

BIG CROP of 1893.

The season of 1892 was dry and very favourable in most districts, and it was safe to predict a big increase some time before harvest. The season of 1893 (similar to that of 1886) was most exceptional, because a perfect seeding time was followed by a seasonable slight rainfall, and there was cold, dry weather during the winter; therefore, it was safe to predict that, having great root strength, the Wheat plant would "tiller" well, and give many stalks. Dry weather afterwards continued till nearly the time of harvest, and as there were few weeds and the straw was short, every condition was favourable, and the result was a bumper crop

1894 CROP.

Such a perfect season may not come again for years, and in 1894 the crop, after having too much rain at the start, was very much injured by late frosts and frogs that in a few days spoiled an otherwise fine prospect, but it may be considered that a good seeding time, if followed by some dry weather, will always go far to secure a good crop, and every year the improvements of cultivation will remove some of the sources of danger.

It is to be always remembered that the Italians are very intelligent in their way, and very keen for money, so they will gradually learn what suits the country, and will work their farms better as time goes on. Already in many parts where farmers are observant and have experience and capital they raise good crops almost regularly, and increase the average yield steadily, and it is very much a question of calculation and speculation whether to farm well and save a small

ROUGH FARMING.

crop properly, or to farm roughly and take the chance of big profits that a favourable season may give on a larger acreage roughly farmed. Mixed farming as it developes will necessitate the employment of more hands, and this will relieve the pressure at harvest time, but now there is too much temptation to take up more cheap land and extend acreage of Wheat only.

POSSIBILITIES.

By calculating what the total area of suitable Wheat lands would be able to produce with good seasons, good farming, and plenty of railways, it would be easy to arrive at figures of export surplus that would satisfy the pride of any Argentine, and relieve any fear of

food scarcity in Europe, even if population increases faster than can be expected, but the increase of production is, however, really a question of labour—which means immigration—and until the Italians get over the memory of the cruel losses they suffered when their hardly-earned savings in paper dollars dwindled to one-third of their cash value in 1890, and were furthermore very generally swallowed up by defaulting State Banks, their relations will not be so easily tempted away from their poor homes in the old country.

LABOUR.

The depreciated currency makes the gold value of an ordinary peon's wages miserably poor (1/- to 3/- per day, or say from 6d. upwards per day with food), and it is not every intending emigrant from Europe who duly appreciates the prospect of making a competency and owning a farm that even the present low price of Wheat affords, if the peon becomes a farmer and has luck. Very few Italians now come out to settle, and until the inevitable "boom" comes again, as it will do when not looked for in this land of the "unexpected and unforeseen," with a consequent rush of the surplus population of Europe, it cannot be expected that there will be sufficient labour to cause the export of Wheat to increase in leaps and bounds as during 1892, 1893, and 1894; but, granted good seasons, it is reasonable to expect a steady increase caused by increased acreage, better farming, and the natural growth of the population.

VALUE of WAGES.

EXPECTED INCREASE of WHEAT EXPORT.

Wheat-growing still pays, and in any case the growers can do nothing else to equal advantage, therefore for some years to come they may be expected to stick to the business whatever price is fixed by the amount of the world's supply. If low prices drive American farmers to other work that pays better, the controlling power over prices will come to the Argentine farmers quicker, but in any case, having the greater advantage in rich land, short railway transit, fine climate, and hard-working people, the Argentine Republic may be trusted to increase the production on a large scale.

EFFECT of GOLD PREMIUM.

The dislocation of the value of labour and land caused by a sudden depreciation of paper dollars in 1890, gave an impulse to Wheat-growing that will be felt long after its effect ought to cease by the natural settling down of trade to the altered conditions, but it has left many people at the work, and it does not seem that the premium on gold is now really a factor of sufficient importance in the cost of production to merit the attention it receives from Wheat-importing countries in Europe, where the quotations are studied from day to day as if they had a constant effect on the production, whereas whether gold falls or rises Wheat will be grown increasingly in the Argentine Republic.

This year preparations are being made for breaking up a large area of new land, and the business must be profitable to some one.

STATISTICS.

The following figures of the Wheat crop and exports are put forward with very great reserve, and really only to act as a sort of framework for calculation and correction, because they are made up from very uncertain data. Export figures cannot be called accurate when the published lists from some ports frequently show errors of 10 per cent. in particular vessels, and when cargoes of other vessels are omitted or entered as Maize or Linseed instead of Wheat, or *vice versa*, and when anomalies occur in the total figures, such as the export to Brazil of 232,000 tons of Wheat in 1893, although the total milling capacity of Brazil is probably under 100,000 tons, and the total Flour consumption not over 150,000 tons per annum. It is also difficult to form any idea of the home consumption when there has been no Census for 15 years, and when over a large district of the South the people live on meat entirely, whereas in the Northern Provinces the people live chiefly on Maize, and in Santa Fé the principal food may be either bread and maccaroni, with a greater or less amount of meat, or else Beans and Maize with a very small amount of bread, and so on according to the continually varying conditions of life.

The acreage has been estimated, from the writer's idea, of the average yield per acre of each year, and as the figures work out gives

an increase for the various years that seems probable, but the total does not agree with the Government idea or estimate, which is said to be 7,500,000 acres for 1894.

Estimate of Wheat production.—Argentine consumption calculated in 1890 on basis of 3,000,000 people at 167lbs. Flour per head, and further 1½ million at 88lbs. per head. Any small stock carried over not allowed for.

Seed Wheat reckoned at one bushel per acre :—

1 quarter of Wheat = 8 bushels of 60lbs.
1 ton (Argentine) = 4·6 qrs. of 480lbs.
100 tons Wheat produces 75 tons Flour.

		WHEAT	
		TONS.	QRS.
CROPS 1890.	Wheat export of 1891	396,000	1,830,000
	Flour export of 1891 (7,000 tons)	9,000	40,000
	Flour consumption.....	370,000	1,710,000
	Seed Wheat	70,000	320,000
	Total	845,000	3,900,000
	2,700,000 acres at 12 bushels = 32,000,000 bushels.		
1891.	Wheat export of 1892	470,000	2,160,000
	Flour export (19,000 tons)	25,000	115,000
	Flour consumption.....	400,000	1,840,000
	Seed Wheat	85,000	390,000
	Total	980,000	4,505,000
	3,300,000 acres at 11 bushels = 36,000,000 bushels.		
1892.	Wheat export of 1893	1,008,000	4,635,000
	Flour export (38,000 tons)	50,000	230,000
	Flour consumption	425,000	1,955,000
	Seed Wheat	110,000	505,000
	Total	1,593,000	7,325,000
	4,000,000 acres at 14½ bushels = 58,000,000 bushels.		

		WHEAT	
		TONS.	QRS.
1893.	Wheat export of 1894	1,608,000	7,400,000
	Flour export (41,000 tons)	55,000	255,000
	Flour consumption	450,000	2,070,000
	Seed Wheat	125,000	575,000
	Total	2,238,000	10,300,000

4,600,000 acres at 18 bushels = 83,000,000 bushels.

1894	Wheat for export, 1895	900,000	4,140,000
(Estmtd)	Flour for export (45,000 tons)...	60,000	275,000
	Flour consumption	470,000	2,160,000
	Seed Wheat	130,000	600,000
	Total	1,560,000	7,175,000

5,000,000 acres at 11½ bushels = 57,000,000 bushels.

It is to be noted that in 1893 and in 1894 there was a larger quantity of Linseed sown than in previous years, and as the result was very satisfactory this may continue, but Linseed growing cannot increase much more for want of the labour necessary for harvesting quickly.

SIZE of the COUNTRY. The total area of the Argentine Republic—extreme length 2,300 miles, width 500 miles—is about 1,212,000 square miles, or 729,000,000 acres, being equal to the areas of the United Kingdom, France, Germany, Austria, Hungary, Italy, Spain, Portugal, Belgium, Holland and Greece.

The flat, level part, in a temperate zone, has been estimated as 800,000 square miles, or 512,000,000 acres.

AREA of LAND for CULTIVATION. The fertile region, suitable for the cultivation of various cereals, is estimated at 375,000 square miles, or 240,000,000 acres. The land under cultivation is said to be 10,000,000 acres.

The land actually under Wheat in 1894 was estimated by Government returns at 7,500,000 acres, but probably the foregoing

estimate of 5,000,000 acres is a safer estimate, and, even allowing for a very great error in calculating the area suitable for the cultivation of cereals, there is land enough for enormous expansion if prices of Wheat encourage the business, and, moreover, as it is most unlikely that manufactures will ever develop enough to attract a dense population, the chances are that most of what is grown will be exported.

If one half of the supposed suitable land were to produce a crop of ten bushels of Wheat per acre, the result would be 150,000,000 quarters, which is about half of the estimated Wheat crop of the world in 1894, so the Argentine Republic may well be called a country of great possibilities, and, meanwhile, it is to be noted as shewing most unexampled development of trade, that in 14 years an import of (177,000 tons) 800,000 qrs. has been changed to an export of (1,600,000 tons) 7,400,000 qrs. in 1894. There is no such record in any other important country. The Argentine Republic has suddenly taken the third place as an exporter of Wheat, and may take the second place in the list if favoured by a good crop any year when either Russia or the United States has a bad season. It is, moreover, quite possible that before long most of the Wheat grown in the United States will be consumed at home by a quickly increasing population. It will, however, be many years before the total production of the River Plate will bear any comparison to the total production of the United States, and therefore the importance of the Argentine crop as a factor in fixing the prices on the world's markets may easily be overestimated.

POLICE
STATION

CHAPTER XI.

Currency Questions.

PREMIUM of GOLD.

By the premium, or, properly speaking, the *price* of gold, is meant the value of a depreciated currency of bank notes that are not payable on demand, or secured by any reserve of gold or silver whatever. The value of these notes depends in the first place upon the absolute necessity of everyone in the Argentine Republic using them for the purposes of trade, and in the second place upon the prospects of their being redeemed in coin some day. It is generally considered that the amount of currency in circulation in the Republic is about three times what is necessary for the population, and if this idea is correct the price of gold can scarcely fall below 300 until some of the notes are called in and burnt. Public opinion may stop the printing of more actual notes, but there are indirect ways of increasing the currency known to exist, and it is moreover not very certain that any great advantage would follow a successful effort to improve the value of the currency suddenly, while on the other hand it is certain that all trade would be upset by a sudden fall of gold, and, as it is the normal condition of most Argentines to owe a good many paper dollars, why should they be anxious to make paper dollars scarcer and dearer?

Import duties are practically the source of Government revenue, and are always paid on a gold basis; therefore the National income would not increase much if gold were to fall, and it cannot be expected that even patriotic Argentines will struggle very hard to improve the value of the currency to their own personal loss, simply for the benefit of foreign creditors and shareholders. The Latin race have very little of the proud spirit that redeemed the United States currency after the war, and a large proportion of Argentines think that paper tokens are really wealth.

The credit of the country, which really fixes the price of gold, is affected by the action of any Government that happens to be in power; and with a perennial supply of schemes that are often clever and always most fanciful and immature, there is a pleasing uncertainty as to what may happen any day to affect the gold market.

GOLD MARKET.

A bold speculator has always a fine chance of rigging the market for a time, and the shipping seasons of Wool and Wheat have their natural effect of increasing the premium temporarily, but no rational trader pretends to an accurate knowledge of what ultimately governs the price of gold, however sure he may be that the present notes will never be worth their face value.

EFFECT on WHEAT MARKET.

A material rise or fall of gold is known within 12 hours at every railway station in the country, and sellers of Wheat practically alter their prices accordingly, therefore the crude idea of European buyers that cost freight and insurance price of Wheat will rise or fall with gold has in fact a very small foundation. Wheat growers naturally ask for as many paper dollars as they can hope to get, without considering currency questions very deeply, and every day somebody has to sell Wheat at the best price obtainable. The prices of machinery, bags, and some groceries fluctuate with gold, but these are not important items in the cost of production, and it is only in an indirect way that the farmers' outlay is otherwise affected by the gold market, and the deep-rooted idea that good seasons will always come and pay for bad ones is far too strong to allow any temporary fall in the price of gold to stop Wheat growing.

CHAPTER XII.

Other Crops than Wheat.

It is no exaggeration to say that any of the cereals of temperate climates can be grown to perfection in some parts of the Republic if favoured by a good season, and it is only intended here to note their cultivation, as they may be considered to be rivals of Wheat, or may assist Wheat growing by providing alternative crops that tell in the farmer's balance sheet.

Beyond doubt Maize is the second great cereal, and it can be grown so easily in all parts of the Republic about 100 miles north of Bahia Blanca, if the rainfall is sufficient, that it may reach an enormous total some day. Three successive years of drought and locusts in 1891, 1892, and 1893 had very little discouraging influence, and, indeed, the acreage of 1894 was probably much greater than in any previous year. No reliable estimate can be made of the acreage, and it is difficult to form even what may be called an idea of the quantity planted when, in addition to the crops grown for sale there are small lots grown for consumption in all parts of the country, any of which may give a surplus for export.

Moreover, as the yield may be trifling or may reach 90 bushels per acre, it is very little use to estimate the export surplus of the whole country in the year like the present even when the crop is grown, because, owing to drought, there has been an almost complete failure in a large part of the Province of Santa Fé, including districts that materially helped to supply the great export surplus of 1890, whereas in many parts of the Province of Buenos Ayres the yield will be very good, and the railway authorities expect 150,000 tons from the district round one station alone, where the average yield is said to be 60 bushels *per acre.*

Some experts say that the total export surplus will be about (700,000 tons) 3,500,000 qrs., but it is well to bear in mind that the wet season of 1888-89 produced a crop which gave an export surplus of about 4,500,000 qrs. for the year ending March 1890, and those figures may easily be exceeded.

PLANTING. Maize is usually planted somewhat thickly in rows about 20 to 30 inches apart, because it is considered—probably wrongly—that if allowed space for full developement the plants are apt to grow too large and yield less grain. The planting can be done any time from October to the end of December, and when ripe the cobs can remain ungathered for months, the

HARVESTING MAIZE. writer having in 1889 seen the gathering of a field that was ripe in March only concluded in November, on account of the scarcity of labour, bad weather, and poor prices.

Maize is sown and gathered after Wheat and Linseed, and is in every way an assisting crop and not a competitor, unless it is for a part of the superabundant land available and for the railway accommodation of the last half of the year, when Wheat and Linseed have, however, generally been shipped.

DISTILLING. A very quickly increasing demand for Maize for distilling takes at present perhaps 500,000 to 750,000 qrs. annually, and there is always a demand from Brazil that takes a fair amount at good prices.

LINSEED. Linseed grows well in favourable seasons in most parts of the Provinces of Santa Fé and Entre Rios and in the north of the Province of Buenos Ayres, being, however, more liable to injury from frost, and requiring quicker harvesting than Wheat and is grown in smaller lots. The export of 1895 promises to shew a large increase over any former year, and home consumption has increased considerably owing to the erection of crushing mills for this and of the many oleaginous products of the country. As the harvest comes just before that of Wheat the two crops do not clash with one another.

BARLEY. Very fine malting Barley has been grown in the western districts, and now that beer of excellent quality is made and largely consumed in the country, it is quite likely that Barley may come into favour as a crop in many parts where it has scarcely been tried yet, and the result may be an export trade of considerable dimensions later on.

OATS. Oats have been occasionally grown for consumption in various districts, and although the climate of Santa Fé is unfavourable for the crop, that of Buenos Ayres is fairly suitable, and some splendid samples received from the Atlantic Coast are evidence of what can be grown. The relatively low price of Wheat caused an increased acreage of Oats in 1894, and there may be an export of 8,000 tons (40,000 qrs.) in 1895 that may be the beginning of a really important trade if prices in Europe offer inducements.

RYE. Extraordinary samples of Rye are occasionally shown in Buenos Ayres, and there is no reason why an export trade should not develop if there is a demand from Europe.

POTATOES. Potatoes are now consumed very generally in the country, and can be grown in some parts of the Republic even in seasons of severe drought, and it is quite practicable to take two crops a year off the same land, one in spring and the other in autumn.

BEETROOT. No proper trial has been made of growing beetroot for sugar, although, probably, in districts where the rainfall is very light and irrigation available, the small roots that give most sugar may be grown profitably as soon as labour is to be counted upon, and a great industry may arise.

TOBACCO. Tobacco may be grown with advantage wherever there is fair chance of sufficient rainfall, but suffers from wind and dust much more than in Paraguay, and requires skilful management to give any good result.

VINE GROWING. The great Vineyards of Mendoza and Concordia are so successful, owing to the limestone formation of the country, that the Vine industry is unlikely to become important in other parts, although very fair Wine can be made in many districts where only Wheat is at present grown.

BEANS AND VEGETABLES. Beans of all sorts form an important part of the food supply of the country, and can be grown with very little trouble, and most other sorts of Vegetables do very well in the cool months of the year, but during a dry summer the hot winds prevent any development of surface rooting plants.

There is no reason whatever why a Colonist should not grow enough vegetable produce to materially assist in feeding pigs in years when the Maize crop has failed, and Haricot and other Beans may easily be grown for export.

Pig feeding on a large scale has scarcely been tried, but there is no doubt that even on a small scale it will prove a source of income to Colonists who are growing Wheat, but have not capital or conveniences for stock-raising or sheep breeding.

ALFALFA. Quite the most remarkable Argentine crop is Alfalfa (Lucerne) which gives three, four, and even six heavy crops continuously in good years in Buenos Ayres or Santa Fé. In the sandy-surfaced lands of Cordoba and the West of Buenos Ayres the roots go down to water at a considerable depth, and grow as thick as a broomstick, so that splendid crops are produced without any rainfall for years in succession. Wherever the surface soil is sandy cattle can pasture on the fields, but near Buenos Ayres and in many parts of Santa Fé the Alfalfa must be regularly cut, or it will be choked in a few years by the strong natural grasses, and wear out gradually.

How far the recently discovered advantages of growing Alfalfa in the West will stop its growing in the present Wheat districts remains to be seen, and although in recent years it has been the *object of landowners* in most parts to have their land broken up

and worked by Colonists for Maize and Wheat very much as a preparation for the much more profitable Alfalfa, there is so much available land that Alfalfa-growing will not stop Wheat-growing.

MIXED FARMING.

It is obvious that with a somewhat migratory class of farmers who find it convenient to work new land that is clean, and who move to fresh districts if tempted by accounts of successful crops, and have so far always put their profits into increased Wheat-growing, the increase of mixed farming proceeds very slowly, and moreover people of the Latin race always seem to look more to immediate results than to any enterprise requiring time for its development, but there is no doubt that as time goes on the Argentine farmer will cease to depend on the Wheat crop only, and by so doing will at the same time reduce the cost of its production.

The unfortunate result of bad Government is naturally a want of the confidence that encourages outlay of capital on improvements, but after all when farm buildings are almost unnecessary, very little money is required for stocking a small farmer in the Argentine Republic with all he wants, and wire-fencing that costs about £80 to £100 per lineal mile is only necessary to protect the fields of Maize or Alfalfa in a Wheat district.

CHAPTER XIII.

Flour Milling.

FLOUR MILLS.

According to statistics recently presented to Government by the milling fraternity, there are 276 flour mills of what are called the first-class and having modern machinery in the Republic, with capacity for using 1,973,000 tons of Wheat, and producing 1,346,000 tons of Flour, whereas it does not appear that home consumption and export for Brazil calls for more than 30 per cent. of that amount. This list does not take into account some 18 mills of second-class and 122 mills of third-class in the upper provinces, all of very little account, and must be very much exaggerated as an estimate of milling capacity.

A successful effort having been made to upset the preferential tariff by which the United States formerly supplied part of some 150,000 tons of Flour used by Brazil, more of the surplus Wheat of the Argentine and Uruguayan Republics will be made into Flour for that market.

WHEAT FOR BRAZIL.

There is a regular export of Wheat to mills of Rio de Janeiro that may amount to 400,000 quarters annually, and a small amount goes to mills of Rio Grande in Brazil.

FLOUR EXPORT.

It does not appear likely that Flour will be made for export to Europe to any extent, because fuel is dear, and there is very little demand for Bran in the country; also the risk of condition to Flour during a voyage across the Tropics is not to be disregarded.

CHAPTER XIV.

Grain Elevators and Inspection.

GRAIN INSPECTION.

In the month of June, 1888, the writer was commissioned by the Buenos Ayres Great Southern Railway Company and the Buenos Ayres and Rosario Railway Company to proceed to Buenos Ayres and report upon the advisability of fostering the grain trade of the Argentine Republic by building elevators with the view of introducing the United States system of selling Grain according to classification, or, as it is usually called, Inspection. This movement of the Railway Boards was very well received by Buenos Ayres merchants and afterwards by the various European Grain Trade Associations, as will be seen by the resolutions annexed.

ELEVATORS.

On his return to England the writer was commissioned by the railway companies to arrange the necessary contracts for building some elevators in order to make a start, and the elevators were ready for the new crop on January 1st, 1890, and have since been in successful operation.

Inspection work did not commence fairly till 1892, but has now got into full swing, with the result that in 1894 some 365 cargoes and parcels (in all 1,600,000 qrs.) were sold to buyers in Europe upon certificate.

Concurrently with Inspection work, a very marked improvement in the condition and quality of all shipments of River Plate Wheat has been noted, and during the past three years, partly on account of favourable seasons, but also because greater care is taken during shipment, a great part of the old reproach of the bad quality of

shipments has been removed; but it cannot be said that as yet there is any approach to the systematic handling of the United States or Russia.

WANT of STORAGE FACILITIES.

Until sufficient elevators and other storage facilities for mixing and cleaning Wheat are forthcoming, the work of shipment cannot be properly done, but it is probable that every season will see some improvement.

River Plate Grain Inspection.

Resolutions adopted at a meeting of Merchants held at Buenos Ayres on 17th August, 1888.

I. That Mr. Goodwin be requested to express to the Boards of Directors in London of the Great Southern Railway Co. of Buenos Ayres and the Buenos Ayres and Rosario Railway Co., the advisability of immediate construction of Elevators of the most approved description for handling and shipping Grain at the various Stations of their lines.

II. That Mr. Goodwin be requested to inform the Grain Trade Associations of London, Liverpool, Antwerp, and Hamburg that it is the intention of the Grain Shippers of the River Plate to establish a system of Grain Inspection as soon as suitable appliances are provided, and that they trust an Inspection authorised by them will be recognised as the basis of Contracts for shipment of Grain to Europe in the same way that similar Inspection is received from the United States of North America.

ARNING, BRAUSS & CO
BATES, STOKES & CO.
O. BEMBERG & CO.
WILHELM BERTRAM.
ERNESTO A. BUNGE & J. BORN.
ED. BRANDT.
J. DREYFUS FRERES & CO.
MALMANN & CO.
MILLIGAN & WILLIAMSON.
TOMKINSON, DUNGEY & CO.
ERNESTO TORNQUIST & CO.

Resolutions of General Meeting of "The Liverpool Corn Trade Association," 31st December, 1888.

"That the Liverpool Corn Trade Association, Limited, warmly approve of the intention of the Merchants of the River Plate to introduce a system of Grain Inspection, as embodied in the Resolutions of meetings of 17th August, 1888."

"That the Association will have confidence in an Inspection of Grain undertaken by Mr. William Goodwin, and duly authorised by the Grain Shippers of the River Plate, and this Association begs to assure him that he has their best wishes for his success in this important undertaking."

Resolution of "The London Corn Trade Association," 15th January, 1889.

"That the London Corn Trade Association warmly approves of the intention of the Merchants of the River Plate to introduce a system of Grain Inspection, and that the Association will have confidence in an Inspection of Grain undertaken by Mr. William Goodwin and duly authorised by the Grain Shippers of the River Plate, and this Association begs to assure him that he has its best wishes for his success in this important undertaking."

Resolutions adopted at a meeting of merchants held at Antwerp on 11th January, 1889.

Les soussignés approvent l'intention des négociants du Rio de la Plata d'introduire un système d'inspection de Céréales, comme exprimé dans les resolutions de l'Assemblée du 17 Aout 1888.

Les soussignés auront toute confiance dans une inspection de grains faite par Monsieur William Goodwin et dûment autorisé par les expéditeurs de Grains de la Plata.

CONSTANT JANSENS.
FERDINAND VAN DER TAELEN.
J. C. VAN PUT & CO.
LAMBO & MATTHEIS.
G. DEBRASSIME.
JOS. KEMPENEERS.
LEECURCY FRERES.
DELBIEN DEVOOGHT.
J. WEGIMONT.
B. CRIQUILLON, HAYBRECKS & CO.
ARTHUR MORREN.
GROUX & CO.
JAMINET FRIEDEBERG.

Resolution of "Association of Grain Merchants in Hamburg," January, 22nd, 1889.

"That the resolution of the merchants of Buenos Ayres of 17th August of 1888, with regard to the construction of Elevators, official Classification, and Inspection is welcomed with pleasure as establishing a firm basis for shipments of Grain, and it is hoped that within a short time the Certificates of Inspection will be acknowledged as sufficient proof of shipments contracted for. Until then any shipments varying from Standard samples will be subject to arbitration, notwithstanding the Certificates'

Resolution of "Hull Corn Trade Association" of 15th February, 1889.

"That the 'Hull Corn Trade Association' warmly approve of the intention of the merchants of the River Plate to introduce a system of Grain Inspection as embodied in the resolution of the merchants of Buenos Ayres to immediately construct Grain Elevators.

"That the 'Hull Corn Trade Association' will have confidence in the Inspection of Grain undertaken by Mr. William Goodwin and duly authorised by the Grain Shippers of the River Plate, and that Mr. Goodwin carries with him the best wishes of the Association."

Inspection Circular of 1895.

AUTHORISED GRAIN INSPECTION OF THE RIVER PLATE.

HEAD OFFICE—RECONQUISTA, 268.

BUENOS AIRES, JANUARY, 1895.

DEAR SIR,

Wheat export in the Argentine Republic has increased fast, but the trade is still in a transition stage, and I venture again to submit a few remarks about the difficulties of shippers that may be interesting to those who have only recent experience of River Plate cargoes and may not know that, in spite of considerable improvements in the past few years, the system of grain handling leaves much to be desired and is not regulated by an Association.

The great difficulty of shippers comes from want of proper storage accommodation to hold stocks and select quality at the ports, and also from want of railway facilities sufficient to carry and embark all the crop in the few months of a busy season. These difficulties will disappear in time, but meanwhile are sufficient often to worry a shipper who has to bring down wheat of various qualities from any of about three hundred railway stations in time to arrange cargoes for vessels as they arrive. It may be that several shippers want to load on the same railway line on account of special quality and there comes a block at the wharfs, and sometimes ships arrive unexpectedly, or a spell of bad weather may stop shipments for several days and cause delays all round.

Only a small part of the crop can be handled through elevators, and the great proportion has to be shipped direct and sampled by testing the original bags during shipment, which is not altogether a satisfactory method, though average results are obtained if the work is always done carefully. Selection is difficult under these conditions, and weighing still more difficult when steamers are loading fast.

It is not possible to "grade" wheat with the accuracy of the United States, because the differences are not sufficiently distinct to be classified, and practically each shipper has to act on his individual judgment.

QUALITIES.—Wheat of the provinces of Santa Fé and Córdoba is sufficiently well known, either as "Rosario" or "Santa Fé," and is more or less of similar quality

whatever seed may originally have been used. This wheat is considered to be "Barletta," as distinguished from "Frances" (soft wheat grown from French seed) or "Candeal" (hard wheat used for macaroni), but owing to varieties of weather there are always local differences of quality, and shippers cannot always get exactly what they want.

Wheat of the Province of Buenos Ayres is less uniform owing to greater varieties of climate and soil, but whatever seed is used there is a strong tendency of the soil to produce what is known as "Barletta" type, although the name may not convey an accurate meaning in Europe. Some parcels when they come from the fields are so mixed that it is difficult to say whether they should be called "Barletta" or "Frances," and there is frequently the same difficulty in drawing the line between Barletta and Saldomé or Tusela.

INSPECTION.—In the year 1894 the large quantity of 350,000 tons of wheat was sold in one way or other "subject to inspection," and the result was generally satisfactory. Errors of judgment cannot be avoided, and some differences of average quality of cargoes during a season are unavoidable and cause disappointment; but the work is done as well as customs of the trade permit, and will be done better with experience gained each year.

WHEAT IN ORIGINAL BAGS.

When wheat is inspected in original bags (for "fair average," "superior," or "choice" quality), every bag is examined with a "trier" at time of shipment, and wheat that is damp, unsound, weevilled, or with undue amount of barley or oats or imperfect grains and seeds, or having sufficient appearance of smut to render it unmerchantable, is rejected. Distinctly inferior wheat is also set aside, and the shipper is at once advised if, as loading proceeds, the average sample shows that quality of the shipment is running low. The final shipping sample is made up by mixing in accurate proportions of each day's samples.

WHEAT FROM ELEVATORS. Grades No. 1, No. 2 (f. a. q.) and No. 3.

This Wheat has been mixed in Silos, holding about 200 tons each that are run together during shipment, is naturally more uniform in quality and can be much more carefully sampled. The Standard of No. 2 Elevator is a sample more or less representing fair average quality of receipts at the time of shipment.

Buyers of Inspected cargoes have a guarantee that careful attention has been given by an independent Inspector to the elimination of all bad grain and that Certificate is only given if the average sample shows that the cargo is reasonably good, but it is not pretended that "fair average quality" is uniform throughout and unless a cargo has been prepared by shippers in an Elevator or by expensive handling elsewhere, uniformity of quality is difficult to attain.

Yours truly,

WILLIAM GOODWIN.

GRADES OF WHEAT FOR SEASON 1895.

No. 1. (Elevator) SANTA FE (or ROSARIO) Wheat shall be choice, dry, sound, clean, and of uniform quality.

No. 2. (Elevator) SANTA FE (or ROSARIO) Wheat shall be sound, dry, reasonably clean, and of uniform quality, not inferior to Inspection Standard at time of shipment.

No. 3. (Elevator) SANTA FE (or ROSARIO) Wheat shall be sound, dry, reasonably clean, of inferior quality, well mixed.

No. 1. (Elevator) LA PLATA Wheat shall be Barletta Wheat of the Provinces of Santa Fé, Entre Rios, or Buenos Ayres, choice, dry, sound, clean, and of uniform quality.

No. 2. (Elevator) LA PLATA Wheat shall be Barletta Wheat of the Provinces of Santa Fé, Entre Rios or Buenos Ayres, sound, dry, reasonably clean, and of uniform quality, not inferior to the Inspection Standard at time of shipment.

No. 1. (Elevator) BUENOS AYRES BARLETTA Wheat shall be Barletta Wheat of the Province · f Buenos Ayres, choice, dry, sound, and of uniform quality.

No. 2. (Elevator) BUENOS AYRES BARLETTA Wheat shall be Barletta Wheat of the Province of Buenos Ayres, sound, dry, reasonably clean, and of uniform quality, not inferior to the Inspection Standard at time of shipments.

Eair Average Quality SANTA FE (or ROSARIO) Wheat shall be Barletta Wheat of the Province of Santa Fé, shipped in good condition in the original bags as received from the interior, selected for quality that will be fair average of shipments at time of shipment, and not inferior to the Inspection Standard.

Fair Average Quality LA PLATA Wheat shall be Barletta Wheat of the Provinces of Santa Fé, Entre Rios, or Buenos Ayres, shipped in good condition in the original bags as received from the interior, selected for quality that will be fair average of shipments at time of shipment.

Fair Average Quality BUENOS AYRES BARLETTA Wheat shall be Barletta Wheat of the Province of Buenos Ayres shipped in good condition in the original bags and selected for quality that will be fair average of shipments at time and place of shipment, and not inferior to Standard Sample.

Fair Average Quality FRANCES Wheat shall be wheat grown from French seed, shipped in good condition in the original bags, selected for quality to be fair average at time and place of shipment.

Fair Average SALDOME Wheat shall be White Wheat shipped in good condition in original bags selected for quality to be fair average quality at time of shipment.

Argentine Republic.

EXPORTS IN TONS.

	WHEAT. Tons.	FLOUR. Tons.	BRAN. Tons.	MAIZE. Tons.	LINSEED. Tons.
1888.....	179,000	6,400	1,300	162,000	40,000
1889.....	22,800	3,400	2,400	433,000	28,000
1890.....	328,000	12,000	2,900	700,000	31,000
1891.....	396,000	7,000	6,500	65,000	12,000
1892.....	470,000	19,000	22,000	446,000	43,700
1893	1,008,000	38,000	20,000	313,000	72,000
1894.....	1,608,000	41,000	—	55,000	104,000

EXPORTS IN QUARTERS AND SACKS.

4.60 Qrs.=1 Ton. 7.87 Sacks=1 Ton.

	WHEAT. Qrs.	FLOUR. Sacks.	MAIZE. Qrs.		
1888.....	823,400	50,368	745,200	—	—
1889..... ...	104,880	26,758	1,991,800	—	—
1890.....	1,508,800	94,440	3,220,000	—	—
1891.....	1,821,600	55,090	299,000	—	—
1892.....	2,162,000	149,530	2,051,600	—	—
1893.....	4,600,000	299,060	1,440,000	—	—
1894	7,400,000	322,670	253,000	—	—

REPUBLIC OF URUGUAY EXPORTS.

	WHEAT. Qrs.	FLOUR. Qrs.	MAIZE. Qrs.		
1894.....	551,000	268,000	223,000	—	—

Wheat Statistics.

ARGENTINE EXPORTS—WHEAT AND FLOUR:—

	Qrs.	Percentage of Crop.	Percentage of U.S. Export.	Season.
1889.....	85,000	4½	0¾	1888—89
1890	1,580,000	41	12	1889—90
1891.....	1,870 000	48	14	1890—91
1892.....	2,300,000	51	9	1891—92
1893.....	4,865,000	66	20	1892—93
1894.....	7,700,000	76	38	1893—94

UNITED STATES EXPORTS—WHEAT AND FLOUR:—

1888—89	11,125,000 Qrs.	= 21 per cent. of crop.
1889—90	13,625,000 ,,	,, 22 ,, ,,
1890—91	13,250,000 ,,	,, 25 ,, ,,
1891—92	27,375,000 ,,	,, 35 ,, ,,
1892—93	23,750,000 ,,	,, 34 ,, ,,
1893—94	20,000,000 ,,	,, 36 ,, ,,

The World's Wheat Crop during the past 5 years,

COMPILED SPECIALLY FOR THIS WORK BY

GEORGE BROOMHALL,

Fellow of the Royal Statistical Society, and Editor of "Corn Trade News."

The following table shows the Wheat crops of all the chief countries of the world for five years, in bushels (and the totals in quarters and hectolitres) revised to June 1895 :—

EUROPE—	1894	1893.	1892	1891.	1890
France	†334,000,000	278,000,000	301,600,000	218,600,000	382,000,000
Russia	*340,000,000	325,000,000	233,600,000	163,200,000	250 600,000
Poland	17,000,000	20,000,000	23,400,000	12,000,000	12,000,000
Caucasia	59,000,000	64,000,000	68,800,000	80,000,000	56,000,000
Hungary	146,000,000	150,000,000	141,600,000	139,200,000	143,200,000
Austria	47,000,000	42,000,000	46,400,000	39,200,000	49,600,000
Croatia & Sclavonia	7,000,000	6,800,000	6,400,000	6,400,000	6,400,000
Italy	117,000,000	131,000,000	112,200,000	137,600,000	127,700,000
Germany	126,000,000	110,000,000	116,400,000	85,800,000	103,200,000
Spain	95,000,000	86,000,000	74,000,000	71,000,000	72,000,000
Portugal	10,000,000	6,000,000	6,400,000	7,000,000	6,500,000
Roumania	44,000,000	58,000,000	58,400,000	60,000,000	72,000,000
Bulgaria	25,000,000	29,000,000	29,000,000	30,000,000	20,000,000
Eastern Roumania	2,000,000	3,000,000	4,800,000	4,700,000	4,700,000
Servia	9,000,000	10,000,000	9,000,000	8,000,000	7,000,000
Herzegovina & Bosnia	2,000 000	2,000,000	2,000,000	1,800,000	1,500,000
Turkey-in-Europe	25,000,000	24,000,000	25,000,000	30,000,000	25,000,000
Greece	5.000,000	7,000,000	7,500,000	8,000,000	6,900,000
United Kingdom	61,000,000	51,000,000	66,900,000	75,200,000	76,000,000
Belgium	19,000,000	17,000,000	20,000,000	16,000,000	19,200,000
Holland	4,500,000	5,000,000	6,200,000	4,600,000	6,000,000
Switzerland	5,000,000	2,400,000	4,000,000	1,800,000	2,200,000
Sweden	4,300,000	3,900,000	3,200,000	3,800,000	3,700,000
Denmark	4,000,000	4,800,000	4,800,000	4,500,000	4,800,000
Norway	400,000	400,000	300,000	300,000	400,000
Cyprus, Malta, &c.	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
Total Europe	1,510,200,000	1,438,300,000	1,367,900,000	1,208,700,000	1,460,600,000
AMERICA—					
U.S.A.	530,000,000	475,000,000	580,000,000	685,000,000	430,000,000
Canada	42,000,000	43,000,000	54,600,000	55,300,000	44,000,000
Mexico	15,000,000	12,000,000	10,000,000	12,000,000	12,000,000
Argentina	57,000,000	90,000,000	55,400,000	36,880,000	32,800,000
Chili	16,000,000	13,000 000	17,600,000	19,400,000	14,400,000
Uruguay	7,000,000	5,500,000	3,200,000	3,600,000	4,100,000
Total America	667,000,000	638,500,000	720,800,000	812,100,000	537,300,000
ASIA.					
India	230,000,000	240,000,000	206,400,000	285,200,000	225,600,000
Turkey-in-Asia	43,000,000	45,000,000	40,000,000	43,000,000	44,000,000
Persia	22,000,000	19,000,000	17,500,000	20,500,000	22,000,000
Japan	15,000.000	15,000,000	15,000,000	15,000,000	14,000,000
Total Asia	310,000,000	319,000,000	278,900,000	363,700,000	305,600,000
AFRICA—					
Algeria	20,000,000	14,400,000	18,500,000	25,600,000	28,400,000
Tunis	9,000,000	7,000,000	8,000,000	7,000,000	7,000,000
Egypt	8,600,000	10,000,000	8,000,000	11,000,000	10,000,000
The Cape	5,000,000	4,800,000	4,000,000	3,500,000	4,000,000
Total Africa	42,600,000	36,200,000	38,500,000	47,100,000	49,400,000
Total Australasia	40,600,000	39,360,000	36,700,000	33,300,000	39,100,000
Grand total, bushels	2,570,400,000	2,471,300,000	2,442,600,000	2,464,900,000	2,292,000,000
" quarters	321,300,000	309,000,000	305,000,000	308,000,000	285,000,000
" hectolitres	935,000,000	898,000,000	888,000,000	896,000,000	833,000,000

N.B.—The crops are those harvested prior to the 1st September in each year, excepting in the cases of the Australasian, Argentine, Uruguayan and Chilian, which are those of the December and February following. The American and Indian official returns of the past two or three years have been discarded as obviously erroneous.

† *Measured bushels.* * Siberia 8,700,000 Spring Wheat (not included).

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